The Interaction Between Children's Developmental Capabilities and the Courtroom Environment: The Impact on Testimonial Competency

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EXECUTIVE SUMMARY

The present paper highlights current social science research in a number of areas pertaining to the ability of child witnesses to interface with the criminal justice system. The timeliness of such research cannot be overstated. Over the last twenty years, there has been a steady increase in the number of children who testify each year in Canada. This has been due to a number of factors; better identification of child victims of abuse, more willingness to listen to disclosures and act in a protective manner, and legislative amendments which have included child-specific offences and provisions designed to modify the way in which children's evidence is received in court.

The increase in the number of children testifying has not however been all positive, with many child advocates complaining that child witnesses are further traumatized by the court system and the rigid rules that prevail, and many defence lawyers arguing that young child witnesses are not capable of providing reliable evidence in a court of law.

Numerous studies have documented the negative emotional impact on children of testifying in court (Goodman et al., 1993; Myers, 1996; Peters, 1991; Sas, Hurley, Hatch, Malla, & Dick, 1993; Whitcomb, Goodman, Runyan, & Hoak, 1994). Many of the stressors facing child witnesses have been identified in the clinical literature. Challenging and intimidating cross-examination of children is permitted and fairly routine. The language employed in the courtroom is sophisticated and formalized. Very few children ever testify behind a screen or using a closed circuit television provision, which means that they must face the accused in court when describing their victimization. Children often have to testify twice, once at a preliminary hearing and once at a trial. As well, there are often long delays between hearings which translate into months if not years during which children's lives are in limbo. Despite the recent proliferation of court preparation programs for child witnesses, not all children even receive court preparation prior to testifying.

In Canada, there has been criticism of not only the *Criminal Code* legislation pertaining to child witnesses, but of the lack of implementation of current available provisions in that legislation, designed to protect children on the stand (Bala, Lindsay, & McNamara, 2001; Nova Scotia Department of Justice Victims' Services Division, 2000; Park & Renner, 1998; South-Western Ontario Child Witness Network, 1999). In 1999, the Department of Justice Canada, Family, Children and Youth section, produced a consultation paper on child victims and the criminal justice system. In it, a number of recommendations were put forward for discussion, all having to do with improving protection for children from abuse and facilitating children's testimony.

Social research in the last ten to fifteen years has offered professionals working in the criminal justice system much information on children's abilities to be witnesses. The findings overwhelmingly support further amendments to the legislation, as well as significant procedural changes in the way in which child witnesses are questioned on the stand.

Cognitive Developmental Research Findings on Children

Developmental research in the area of children's cognition has shed light on the way in which children think and organize the world around them. The findings are encouraging for the participation of children as witnesses in court, but at the same time, researchers warn that there are a number of cognitive developmental skills which are demanded of child witnesses that are not readily available until children are at least ten years of age or older.

Making inferences about others' intentions, taking another person's point of view and comprehending hypothetical questions are examples of three skills that involve abstract reasoning abilities that are not present in young child witnesses (Fivush & Hudson, 1990; Selman, Schorin, Stone, & Phelps, 1983). Another area of difficulty for child witnesses that has been studied is comprehension monitoring. Flavell, Speer, Green, and August (1981) have pointed out that children often fail to realize that they have insufficient information to correctly interpret the world around them. This has important implications for children who are testifying, because they must actively monitor their own comprehension throughout the court proceedings, in order to give accurate evidence.

It is no surprise that children have been found to lack knowledge about the way in which the criminal justice system works and are naive in their understanding of their role as witnesses. Few children have had exposure to court, or are knowledgeable about how matters are dealt with in the criminal justice system. This places them at an unfair advantage in the courtroom, where everyone else is familiar with the procedural rules and the terminology. As well, children generally are reported to view adults as omniscient (Saywitz & Nathanson, 1993). This causes them to offer little or no details in their accounts, because they believe that the adults already know what has happened to them. In the courtroom, this can present major credibility problems and children need to be reminded that the judge and the lawyers do not know what has happened to them.

In court children are usually asked to place an event in time, to estimate measurements, and demonstrate other abstract numeracy skills. The developmental literature on children's abilities to tell time, estimate weight, height and distance etc., suggests that children develop these skills very slowly over elementary school (Saywitz & Camparo, 1998). Given that many children under twelve testify in court, researchers suggest that caution be exercised when questioning children on the stand about abstract concepts that may not be developmentally appropriate.

With respect to the importance of the truth telling function in court, current research on children's appreciation of the significance of an oath, the meaning of truth, lies and promises, is very encouraging for children's participation in the criminal justice system. Most notably, research by Astington (1988) and Maas and Abbedutto (1998) on children's understanding of promising to tell the truth, suggests that when children promise to tell the truth, they include the act of telling the truth as well. Even children less than seven years old have been found by Haugaard, Repucci, Laird, and Nauful (1991) to be capable of discerning a lie from the truth. In their research, they found that children's definitions of a lie would not disqualify them as competent witnesses in court. These findings have particular relevance for the debate over the

practice of conducting inquiries into the oath for children less than fourteen years of age. It suggests that simply having children indicate that they will tell the truth is a better option than the current inquiry into the oath.

Language Development in Children

The importance of language acquisition for a witness is obvious. In children, language skills develop with age and experience, with receptive skills usually developing more quickly than expressive skills. The act of testifying in court involves both receptive and expressive language skills, as a verbal account of children's memory is expected on the stand, in response to questions by lawyers. Preschool aged children generally understand words with only one or two syllables, but generally they can respond in short full sentences. There is little appreciation for grammatical rules of language at this age and subtle difficulty with tenses. This presents a challenge for lawyers who are questioning such young children.

Early primary school aged children have developed sufficient language skills to participate in everyday language, but will have difficulty with the language employed in the courtroom. They too have more developed receptive language skills than expressive skills, and will not always be able to describe in words what has happened to them, even though they have a memory for the event. Late primary school aged children are more proficient, but still lack descriptive adjectives, making an elaboration of their accounts difficult. The reality is that difficult words, complex syntax and compound sentences still present a challenge for most children on the stand (Greenstock & Pipe, 1996; Saywitz & Nathanson, 1993; Walker, 1993).

With respect to children's knowledge of legal terminology, the language of the courtroom is foreign to many children. "Lawyerese", as it has become known is not familiar to most children or the general public for that matter. Children however, are expected to demonstrate communicative competency, which involves understanding the language of the court. Studies on children's understanding of legal terminology indicate that there are age related differences in comprehension, and many common legal terms are not familiar to children (Flin, Stevenson, & Davies, 1989; Maunsell, 2000; Saywitz, Jaenicke, & Camparo, 1990; Walker, 1993; 1994). In fact, in the majority of studies carried out to date, most legal terms are not accurately defined until children are at least ten years of age. These findings speak to the need to provide court preparation for children, so that they have a basic understanding of the terminology that is employed in the courtroom.

Memory Development in Children

Of all the areas in child development, research in children's memories has provided the most relevant findings for child witness participation in the court. The findings are very encouraging and overall suggest that children do have accurate long-term memories for events that have happened to them in the past. As well, they can provide accounts of these memories under the right conditions. This is important because verbal memory is central to effective testimony, as children cannot provide accurate reports of events that cannot be remembered (Ornstein, Larus, & Clubb, 1991).

Ceci and Bruck (1993) in their research on child witness memory, suggest that children as young as three can provide forensically relevant information. There is an age factor however, in that younger children remember less than older children, and provide fewer details in their free narratives. This difference is attributed to a lack of organization of memory traces in younger children, which makes retrieval more difficult. All children appear to remember central plot related details more readily and less peripheral detail.

In order to produce a complete account of what has happened, children must have developed the ability to produce a narrative account of what has occurred in the past. Research suggests that by the age of five or six, most children have started to develop this skill (Hudson & Shapiro, 1991) but many still require cues to elicit their memories. This can present difficulties in forensic settings where issues of suggestibility are often raised (Ornstein, Gordon, & Larus, 1992; Poole & Lindsay, 1995, 2001).

A number of factors have been found to affect memory. Heightened anxiety can impact on children's memories for events as increased stress can interfere with encoding and retrieval processes (Peters, 1991). Unfortunately much of what has to be remembered is often anxiety ridden, and most children are very anxious in the courtroom when testifying. Passage of time has also been shown to affect memory retrieval with more information remembered after shorter delays than longer delays (Howe, 1991). It is no secret that in court, there are usually lengthy delays between hearings and child witnesses are expected to remember details of events that happened in the distant past.

Areas of difficulty in memory retrieval which appear to be particularly age related are source monitoring problems in young children under three (Gopnik & Graf, 1988), script memory in children under five (Farrar & Goodman, 1992) and suggestibility (Ceci & Bruck, 1995; Poole & Lindsay, 1995). Careful interviewing of children is essential to insure that children's memories for events are preserved and their evidence is not tainted.

Implications of Developmental Research for Child Witness Involvement in the Court System

Overall, findings in child developmental research support the participation of child witnesses in the criminal justice system, suggesting that they have much to offer that is forensically relevant. The research also indicates that many aspects of current court procedures must be modified, in order to improve the quality of children's evidence and minimize their trauma. There is an urgent need to modify the complexity and nature of questions put to children on the stand, and the need to treat child witnesses in a more sensitive and enlightened manner, so that they can share their experiences with the court. More training for professionals on how to interview and question young children in a forensic setting, as well as strict guidelines on the nature of questions put to children on the stand by lawyers are needed. Finally, better implementation of existing legislative provisions to reduce child witness stress in the courtroom and less restrictions on the use of various provisions with child witnesses must occur.

Children have much to tell us about their victimization experiences, but many children are not able to withstand the pressures that are brought to bear in court, nor are they able to meet

the cognitive requirements inherent in existing inquiries into the oath and the intimidation in cross-examination. Unless further attempts are made to modify the way in which children's evidence is solicited, children will not be able to give the court full and candid accounts of what has happened.

1. INTRODUCTION

The purpose of the present paper is to highlight current social science research findings in a number of areas relating to childhood development, all of which have been hypothesized to have relevance to children's testimonial abilities. Recent findings pertaining to children's development in cognition, language acquisition, knowledge, emotional resiliency, memory and suggestibility will be reviewed. In order to determine which childhood developmental capabilities are instrumental to children performing as witnesses in court, a review of both international as well as Canadian studies on the general approach of the Criminal Justice System to receiving the testimony of children is offered. Of particular relevance are recent research findings on the experiences of child witnesses in Canadian criminal courts. An overview of the essential expectations that exist of child witnesses in our criminal justice system is provided as a model or 'template' against which the developmental capabilities of child witnesses of different ages are then compared.

The paper offers practical recommendations for professionals working within the Criminal Justice System to improve the quality of evidence offered and the qualitative experience of child complainants in court.

1.1 Children and the Courts

Over the last twenty years, there has been a steady increase in the number of children who testify each year in criminal court in Canada. This is in no way a spurious development, but rather the culmination of a multiplicity of factors that have emerged over the last two decades. It began with a slow, but positive attitudinal change on the part of helping professionals towards children's competencies to provide accurate information about events in their lives. This gradual change in attitude towards children's disclosures, was reinforced in large part by social science research carried out in the 1980's in the United States on children's testimonial capabilities (Berliner & Barbieri, 1984; Goodman, 1984; Melton & Thompson, 1987; Myers, 1987; Whitcomb, Shapiro, & Stellwagen, 1985). More and more children were being identified in mental health clinics and residential treatment facilities, with behavioral and emotional symptomatology suggestive of past victimization. As case workers, treatment providers, and other professionals started asking more pointed questions, children responded with accounts of their past abuse.

This generally more favorable attitude on the part of professionals towards the credibility of children, which emerged in the mid-eighties in Canada, coincided with the release of the Badgley Royal Commission results, which identified child abuse as a significant problem in this country (Committee on Sexual Offences Against Children and Youth, 1984). In reality, this national survey confirmed what professionals already suspected from their caseloads, but the Commission results served to further awaken the general public to the extent of the problem. The startling statistics that emerged, described both the incidence and prevalence of childhood victimization in Canada and the apparent inefficient handling of cases of child abuse by the systems that were in place to protect children. The findings spurred heated discussions on all levels of government. How could our society better protect children in Canada from sexual and physical abuse? Listening to children was identified as the first step.

A more accepting disclosure climate with respect to allegations of abuse by children, led to a gradual increase in the number of cases reported to mandated agencies such as the police and the Children's Aid Society. What became apparent rather quickly, was that the next identified step had to involve the development of appropriate responses by mandated agencies to children's disclosures of abuse.

Motivated by this positive change in attitude towards abuse disclosures by children, and in recognition of the urgent need to deal more effectively with this social problem, Canada embarked on the development of new legal remedies to combat childhood victimization. Legislative amendments were introduced in 1988, most notably Bill C-15 enacted in 1988 (An Act to amend the Criminal Code of Canada and the Education Act, 1985). This bill contained significant changes to the *Canada Evidence Act* and *Canadian Criminal Code* in respect of child witnesses and child sexual abuse prosecutions. The amendments included the introduction of substantial new protections, most notably child-specific sexual offences and provisions to help children testify about their victimization. Further amendments were then introduced in 1993 (An Act to Amend the Criminal Code of Canada and the Young Offender's Act, 1993).

Of most significance from the point of view of children's involvement in the court system, was the abrogation in law of the need for corroboration of unsworn testimony and the negation of the distinction between sworn and unsworn evidence for children under fourteen years of age. These two changes to a previously restrictive reception of children's evidence in the courts essentially opened the courtroom doors, allowing children to testify even if they could not swear an oath and even in the absence of corroboration. Given the particularly clandestine nature of child sexual abuse which often does not involve injury and medical findings (Sas, Cunningham, Hurley, Dick, & Farnsworth, 1995), coupled with the reality that many young children have difficulty defining an oath in court (Bala, 1993; Sas et al., 1993; Wilson, 1989; Wolfe, Sas, & Wilson, 1987), these two legislative amendments were responsible for allowing more children into the courtroom to tell about their victimization experiences.

In the nineties, a number of historical cases of child sexual and physical abuse came to light as well, and these cases emphasized the importance of responding to children's disclosures of abuse. The Canadian public's awareness of the extent of child abuse increased tenfold through exposure to the horrific details that emerged in a high profile historical abuse case at Mount Cashel Orphanage in Newfoundland (Harris, 1990). Many questions abounded. How could so many children (now adults) have suffered and no one notice? In spite of rumors of abuse at Mount Cashel, why was nothing done?

Since that case came to light, the public has been exposed through extensive media coverage to the victimization of large groups of children in residential schools and other institutions, the proliferation of child pornography rings on the internet, and the involvement of children in sexual exploitation rings in major Canadian cities (Sas, Hurley, Cunningham & Austin, 1997). In addition to these multiple victim multiple offender cases, there have been a number of celebrated cases involving high profile individuals as victims. One such case involved Sheldon Kennedy. Sheldon Kennedy was a star junior hockey player for the Swift Current

Broncos in Saskatoon. At age 20 he disclosed sexual abuse by his coach Graham James. This case in particular brought the problem of childhood victimization to the forefront.

As can be expected, accompanying the rise in high profile child abuse cases in which children testified has been an increase in criticism by defense lawyers regarding the veracity of young children's accounts of sexual and physical abuse. In the United States, the Kelly Michaels case (State v. Michaels, 1994) and the McMartin case (Montoya, 1993), both of which involved large numbers of preschoolers in a day care center; and in Canada, the Martinsville's matter in Saskatchewan (Roberts, 1995) which emphasized the potential dangers of accepting children's accounts of abuse when inappropriate and suggestive interviews had taken place before court. In comparison, the Prescott matter (Blishen & Gummer, undated; Pagnello, 1992) was an example of a well conducted multiple victim multiple offender criminal investigation.

In response to concerns raised in these North American cases, as well as criticisms of other investigations abroad (*R v. Ellis*, 1994)[1], the last five years has found social science research focusing its attention on the troublesome issue of children's suggestibility in response to suggestive and leading questions in forensic interviews. A proliferation of studies examining the potential for contamination of children's reports by interviewers and the suggestibility of children's memories have been conducted (e.g., Bruck, Hembrooke, & Ceci, 1997; Ceci & Bruck, 1993, 1995; Lyon, 1999; Poole & Lindsay, 1997, 2001).

These studies on suggestibility and memory in children have raised concerns about the accuracy of very young children's memories. A common finding in these studies, has been that children's memories are deficient compared to that of adults and more suggestible to post-invent information. Some defense lawyers have even raised the question of whether young children can ever be depended on to give reliable accounts in a court of law.

In response to the increasing backlash against children's evidence in court and in light of study findings on children's susceptibility to suggestion, attempts have been made to provide clearer guidelines for interviewing children and more sophisticated abuse protocols for mandated agencies carrying out forensic investigations (Coulborn-Faller, 1996; Poole & Lamb, 1998; Saywitz, 1995; Saywitz & Elliot, 1999). Improving the quality and integrity of investigative interviews in light of current research findings has become a major priority.

In summary, the last twenty years or so has produced many changes in the way we respond to the problem of child abuse. One major development has been a stronger legal response to the problem and the introduction of more and more child witnesses into criminal court as complainants in prosecution cases. The next section of this paper will discuss the involvement of children in court, in particular the expectations of children when they testify. This is intended to provide a background for the subsequent sections, which will focus on different aspects of children's development and their impact on testimonial competency.

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1 The case of *R v. Peter Ellis* in Christchurch, New Zealand involved young children in a creche, who made disclosures of sexual abuse and ritual abuse by Mr. Ellis. Mr. Ellis was convicted in 1994, and most recently criticisms were leveled at the way in which the matter was investigated by police and social services. An inquiry was held to determine whether Mr. Ellis had been convicted on unreliable children's evidence.

1.2 The Reception of Child Witnesses in Court

Our reliance on a legal remedy to combat child abuse has translated into a reality where young children's testimony against their alleged abusers has become the cornerstone of our prosecution efforts (Woolard, Repucci, & Redding, 1996). In the absence of a guilty plea, children are routinely expected to testify about their alleged victimization at both preliminary hearings and trials.

An increase in the participation of children in the Canadian court system was found in a four-year review of Bill C-15 (Standing Committee on Justice and the Solicitor General, 1993). This was seen to be encouraging, as it was felt that the steady increase in the number of children testifying was a sign that the Criminal Code amendments intended to facilitate the reception of children's testimony were effective. More cases of child abuse were definitely being heard across the country.

In a multi-site study involving child witnesses entitled *I'm doing my job in court, are you? Questions for the Criminal Justice System*, over 900 cases of child abuse prosecuted across South Western Ontario were examined retrospectively (South-Western Ontario Child Witness Network, 1999). The researchers found that children testified in 80% of the preliminary hearings that were held and in 88% of the trials. These numbers indicated clearly that children's involvement in the court process was critical to the prosecution of their cases.

In another more recent study of child witness involvement in criminal court, just over half of the 251 completed child abuse cases tracked by the Nova Scotia Department of Justice Victims' Services, testified in court, many more than once (Nova Scotia Department of Justice Victims' Services, 2000). The remaining children who were referred to the Victim Services Department were waiting to testify. The statistics quoted in the Ontario and Nova Scotia studies on child witness involvement in court proceedings, confirm the trend described by the Standing Committee on Justice and the Solicitor General seven years earlier.

What has not been affected to the same extent by the amendments however is the qualitative experience of most children who testify in court. Several research studies have highlighted the secondary trauma, which occurs when children venture into the courtroom arena (Bala, 1993; Park & Renner, 1998; Sas et al. 1993, 1995; Department of Justice Canada, 2001). Despite the legislative amendments, researchers have reported negative experiences for children on the stand.

The negative experiences are attributed in large measure to reluctance on the part of the judiciary, the prosecuting crown attorneys and most notably the defense lawyers, to handle children in a more sensitive manner. In Canada, a failure to routinely implement the legislative provisions designed to ameliorate the stress of testifying for children, such as the use of screens and closed circuit television, or making support persons available to accompany children to the stand, has meant that many children are intimidated and highly anxious in court when they testify (Bala, Lindsay, et al., 2001; Park & Renner, 1998; South-Western Ontario Child Witness Network, 1999).

Child advocates have suggested that the marked difficulties children experience on the stand are not the result of simply a reluctance to change the way business is done in court, but are symptomatic of an underlying negative courtroom culture that remains insensitive to children's emotional vulnerabilities and misinformed about their capabilities and their limitations. On the surface, children are permitted access to court because of the changes to the legislation. Once they are there however, this negative courtroom "culture" prevails and there are little or no accommodations made available for child witnesses. Court observers note that what happens in court can often undermine children's testimonial competencies.

There are many stressors facing child witnesses. Challenging and intimidating cross-examination of children is permitted and fairly routine. The language employed in the courtroom is sophisticated and formalized. Very few children have the benefit of testifying behind a screen or using closed circuit television, despite being very frightened by the presence of the accused in the courtroom. Children often have to testify twice, once at a preliminary hearing and again at trial. There are extended delays between hearings, which result in long periods of anticipatory anxiety. All this occurs in spite of the stated spirit of the legislation, which recognizes children's vulnerabilities and provides progressive amendments to the law, which can reduce the stress of testifying.

Park and Renner (1998) have described our current legal system as one which creates procedures and tactics that promote stress and push child witnesses beyond their level of competency, thereby preventing them from testifying fully and truthfully. Others have documented the fact that ignorance about children's abilities still prevails in court, and as a result children are routinely exposed to inappropriate questions and complex procedures that they do not understand (Bala, Lee, Lindsay, & Talwar, 2001).

The Canadian experience for child witnesses has not been unlike that described in other countries around the world. In describing the experience of child witnesses in Britain, Bull and Davies (1996) cited an article in the 1994 *Daily Telegraph* in England, which described how one eleven year old child testifying in a child sex-gang prosecution "endured six days of cross-examination and frequently broke down in tears" (pp. 97). Many child advocates around the world have contended that the Criminal Justice System ignores the special vulnerabilities of child witnesses (Davies, 1991; Dent & Flin, 1992; Freshwater & Aldridge, 1994; Goodman et al., 1993; Hamblen, Leibergott, & Levine, 1997; Maunsell, 2000; Pipe, Henaghan, Bidrose, & Egerton, 1996; Whitcomb, 1992).

Around the same time that Bill C-15 was enacted in parliament in Canada in 1988, other countries were instituting changes to their legislation in respect of child witnesses[2]. In 1996, in a book entitled *International Perspectives on Child Abuse and Children's Testimony* edited by Bette Bottoms and Gail Goodman, it was noted that implementation of the various legislative changes has been slow to develop around the world (Bottoms & Goodman, 1996). Canada, as it turns out, is no different than other countries in its reluctance to implement the new provisions.

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[2] (e.g. *The Pigot Committee Recommendations*, 1988; *The Report of the Advisory Group on Video Evidence*, Home Office, 1989; and the *Memorandum of Good Practice* by the Home Office in 1992 in England: the Melamed Committee report on sexual offences against minors in Israel (1987); the Scottish Law Reform Commission 1990, the Oath Amendment Act (1990) in Australia, the Irish Law Reform Commission, 1990; the New Zealand Evidence Amendment Act, 1989).

1.3 Post-Disclosure Stressors on Children

In order to understand the difficulties that a child might experience in the courtroom when testifying, one needs an appreciation not only of the child witness's role in court, but of the typical events that occur in a child's life in the post-disclosure pre-court time period. Once a disclosure is made, children and their families are swept up in a complex process that most do not understand. Children have no idea that they will be testifying months or years later in court about what has happened to them. Depending on their age, they may not even know what a court is!

This lack of understanding on the part of children about the stages of criminal prosecution was highlighted in a three-year follow-up study of child witnesses who had testified in criminal court in London, Ontario. The study was carried out by the Child Witness Project at the London Family Court Clinic in Ontario (Sas et al., 1993). In this study, follow-up interviews of child witnesses were carried out in order to determine children's views of their past court experience and their recommendations for improvements to the system. It was discovered that children who disclosed their victimization were generally unaware that the police were going to be called, let alone that they would have to testify in court. Even older children were remarkably naive in their understanding of the process that was started as a result of their disclosures.

Children were also not prepared for the significant personal life changes that ensued. This was especially the case if the accused was a family member or someone close to their family and in their circle of community acquaintances. In cases where teachers were the accused, children often had to change schools, or if the accused was a member of their church or neighborhood, this could mean a move as well.

The most striking finding, however, was that most child witnesses simply wanted the abuse to stop and did not foresee a witness role for themselves once they had disclosed. Children were not prepared for the intrusive questioning that took place by mandated authorities, the physical examinations that were sometimes carried out, and the reactions of their loved ones and others to their disturbing information. They were most definitely not prepared for the aggressive questioning they were submitted to on the stand, or the fact that in most cases their parents could not be in the courtroom when they testified. During court preparation sessions, children often shook their heads in disbelief when they heard that they would be just a few feet away from the accused when they testified. For most children under twelve in this study, it never occurred to them that the accused would even be in court!

Children in this study found themselves involved in a lengthy court process, which was emotionally taxing, as it was not unusual for cases to take up to two years from the first hearing through to the trial. This follow-up study of child witnesses discovered that the entire experience was distressing for many children and there were many unexpected stressors.

Other researchers have also documented the fact that the months leading up to the child's court testimony either at a preliminary hearing or a trial is often marked by anticipatory anxiety regarding the expected testimony (Goodman, Bottoms, Schwartz-Kenny, & Rudy, 1991;

Runyan, Everson, Edelsohn, Hinter, & Coulter, 1988; Whitcomb, Runyan, Devos, & Hunter, 1991). By the time most child witnesses enter the courtroom, months have passed, during which time many changes have occurred in their lives. Their lives have been in limbo and they have relived their abusive experiences over and over again in their minds in preparation for their testimony.

1.4 Children's Qualitative Experiences on the Stand

Once children enter the courtroom, there are a myriad of expectations, which are implicit in the role of a witness. In Canada, access to court preparation services varies from province to province and from jurisdiction to jurisdiction. Many child witnesses do not receive any formal preparation and are not specifically taught anything about court procedures and the legal terminology that is employed in the courtroom. Some children only meet their crown attorney on the day of court and enter the courtroom to testify, not knowing anyone. Others may have had some court preparation through Victim Witness Assistance Programs or Child Witness Programs.

In the courtroom, children can expect to find an array of adults (court persona who are all familiar with court procedures) and of course the accused. There may be others as well if members of the public have come to observe the hearing. Family and friends of the accused often attend, which can be yet another source of anxiety for a child witness. When one thinks about it, there are few experiences in a child's personal life which prepares them for the task of giving evidence about emotionally difficult topics, attending a formal courtroom and talking in the presence of many adult strangers, some of whom who may be hostile.

The recent survey of 900 cases of alleged child abuse in Ontario (South-Western Ontario Child Witness Network, 1999) found that the majority of children who testified did so without the benefit of a screen or closed circuit television, and without the benefit of even a support person to accompany them to the stand. Bala, Lindsay, et al. (2001) in their examination of Canadian implementation of legislative amendments, found that provisions such as the screen or closed circuit television are rarely employed. Children typically testify in the traditional manner, like adults.

Another significant finding from the Ontario Child Witness Network study, was that parents are often excluded from the courtroom while children testify, as they can be potential witnesses in the cases and there is a standing court order excluding witnesses. Commenting on the practice of having children go into court alone, Myers (1996) in his chapter entitled "A decade of international reform to accommodate child witnesses", compared the experience of children facing a hospital procedure and those facing the prospect of giving testimony in court. He concluded the following, "At the hospital, emotional support is an integral part of treatment and parents are partners in therapy. At the courthouse, however, things are different. The tradition in court is that the child must go it alone" (p. 234).

Recent social science research has demonstrated that young children who are asked to separate from an attachment figure and accompany a stranger into an unfamiliar office often experience considerable anxiety (Saywitz & Elliot, 1999). This separation anxiety is no doubt

mild compared to the anxiety that must be engendered in children when they must enter a courtroom on their own. Research has also shown that separation anxiety is even more likely if a child has been maltreated in the past (Saywitz & Elliot, 1999) and the clinical literature on intrafamilial abuse documents the importance of a supportive non-offending parent to a child's post-disclosure adjustment (Sas et al., 1995). Children need to have a parent in the courtroom. It stands to reason that maltreated children are even more vulnerable on the stand. The irony in all these findings is that the majority of child witnesses who testify come to court to talk about their own victimization experiences and nearly all of them have to enter the courtroom without the support of a family member.

Given this scenario, we must consider the possibility that our social expectations of children when they testify in court may go beyond what most children can comfortably cope with. We need to ask ourselves what the implication is of having a highly anxious child on the stand. There is now empirical evidence, which indicates that if a child is traumatized during their court experience, such trauma can affect what is said in court, how it is said and consequently the child's credibility in the eyes of a jury or judge (Hamblen et al., 1997; Saywitz & Elliot, 1999; Stafford & Asquith, 1992). It stands to reason that if we ignore a child witness's emotional needs, the final court outcome may well be at risk too.

1.5 Understanding the Expectations of Child Witnesses on the Stand

What are the actual demand characteristics inherent in the task of giving evidence? Walker (1993) in her observations of children giving evidence, outlined six basic expectations of child witnesses: (1) That they have observed or experienced the event in question, (2) that they can recollect the event in question, (3) that they can communicate their recollection verbally, (4) that they understand the questions put to them on the stand, (5) that they are able to give intelligent answers to the questions put to them, and (6) that they are aware of their duty to speak the truth.

Melton (1981) who wrote about this more than ten years earlier, suggested that a child witness must have: (1) The cognitive skills to adequately comprehend what they have experienced, (2) be able to organize that experience cognitively, (3) be able to differentiate the memory in question from other memories or fantasies, and (4) be able to maintain and demonstrate these skills under stressful conditions. Common to both Walker's (1993) and Melton's (1981) analyses, is the notion that in conceptualizing their testimony, children must be able to order the events in space and time, de-center their experiences and feelings, and monitor their own responses and comprehension.

Greenhoot, Ornstein, Gordon, and Baker-Ward (1995) in their examination of child witness behavior, suggest that young children's verbal reports about an event may not reflect what they actually remember, because they cannot meet the behavioral and cognitive demands of the interview or examination. This appears to be particularly true of the court experience and is not necessarily limited to younger children. Older children often experience difficulty on the stand as well. In addition to the cognitive and behavioral demands of testifying, there is the underlying expectation that children can tolerate the emotional demands placed on them.

It should be no secret that children perform best when they are comfortable and understand what is expected of them. Research over ten years ago by Peters (1991) demonstrated that children's memory performance was impaired if they were questioned about a stressful event by an interviewer who employed a stressful confrontational style. Moston and Engelberg (1992) suggest that allowing social support may have a facilitative effect on task performance. They too note that the intimidating physical environment of the courtroom can undermine a child witness's eyewitness testimony.

Saywitz and Elliot (1999) in their handbook *Interviewing children in a forensic context*, strongly recommend an atmosphere that is not accusatory, intimidating or condescending. They refer to the accumulation of research that suggests that anxiety impacts negatively on children's memory. It is no secret that the atmosphere in the courtroom can be quite tense at times, even highly charged. Do children really possess the emotional resiliency to deal with so much pressure?

If the prospect of testifying in an intimidating setting is not enough to inhibit most children, the fact that the proceedings are actually carried out in what has sarcastically been referred to as a foreign language or "legalese" (Quas, Goodman, Ghetti, & Redlich, 2000), makes the experience even more difficult. As will be explained in more detail later, many of the legal terms are unfamiliar to children, the phrases too confusing, the questions too abstract. When these obstacles are added to the other stressors that have been described, the task of testifying can seem insurmountable to children.

1.6 The Inquiry into the Oath: A Child's First Foray on the Stand

Courts around the world have historically employed special inquiries to assess whether or not children are competent to testify. In Canada, a more discretionary approach has evolved in which the evidence of children is considered individually and in context (Paccioco, 1996). Children under fourteen are currently subjected to a judicial inquiry, the goal of which is to determine if they have the intellectual ability and the moral capacity to give evidence. This procedure is outlined in Section 16 of the *Canada Evidence Act* (1985). The two major areas of focus in a *voir dire* are the child's communicative abilities and the child's understanding of the meaning of the oath. Recently, there has been criticism of this inquiry process in Canada, based largely on courtroom observations of child witnesses having difficulty engaging in these inquiries (Bala, Lee, et al., 2001; Department of Justice Canada, 2001; Park & Renner, 1998).

One recommendation that has been suggested is that in light of what we know about children's cognitive development, we need to modify our expectations and revise our procedures when conducting inquiries into the oath. Another more radical recommendation is that we should totally dispense with the inquiries and simply have children agree to tell the truth on the stand.

Bala, Lee, et al. (2001), deal with this very issue in their recent article on assessing competency in child witnesses. They point out that Canadian law requires that a child witness must have an understanding of such concepts as the truth, a lie, an oath and a promise, in order to be considered competent to testify. Bala, along with his colleagues conducted a survey of the

judiciary on the nature of questions asked by them of children during inquiries into the oath[3]. They found that many complex moral, religious and social issues are raised with children during these inquiries and that the level of abstract reasoning that is required by child witnesses is often beyond their cognitive abilities.

In earlier research conducted by the Child Witness Network (Child Witness Network, 1999) and more recently by the Toronto Child Abuse Center Court Observation Study (Department of Justice Canada, 2001), court observers noted great variability in the nature of questions put to children as part of their inquiries. In general, they too found that developmentally inappropriate questions were often put to the children, questions that included complex ideas and difficult vocabulary. They also surmised that much of what was asked during the inquiries was beyond the understanding of most child witnesses who were under fourteen and had to undergo the examination.

Another criticism of the inquiries that has come to light is the continued dependence of the court on a religious understanding of the oath. In some instances, very complex religious issues are raised with young children. Bala in his survey, found a consistent judicial expectation that child witnesses have religious training and a religious understanding of the oath. The Court Observation Study at the Toronto Child Abuse Center also found a judicial expectation that child witnesses have a religious understanding of the oath. In fact, observers in this study commented that children who did not have a religious upbringing found the questions embarrassing and uncomfortable.

Overall, the research suggests that inquiries appear to reflect a lack of understanding on the part of the court regarding the developmental trends in cognition and language in children. For these stated reasons, the practice of having an inquiry has been abolished in a number of other countries such as England, Scotland, and New Zealand. One proposal that was discussed here in Canada, in a recent Department of Justice consultation paper on child witness involvement in court (Department of Justice Canada, 1999), is one wherein the inquiry into the oath is abolished, allowing children regardless of their age, to just promise to tell the truth, after having been explained its importance in a court of law.

1.7 Cross-Examination of the Child Witness

Just over ten years ago in a Canadian magazine article called *The Lawyer's Weekly,* (Schmitz, 1988), a defense lawyer wrote the following advice for lawyers regarding the cross-examination of child witnesses, "You have to go in there as a defense counsel and whack the complainant hard at the preliminary...get all the medical evidence, the Children's Aid Society record...you've got to attack the child complainant with all you've got, so that he or she will say, I'm not coming back in front of 12 good citizens to repeat this bullshit story that I've just told the judge" (p.22). In criminal court, the process of cross-examination is confrontational, accusatory and at times intimidating. Carter, Bottoms and Levine (1996) in their discussion of criminal proceedings, suggest that the discrepancy between competence and performance is a likely

3 The survey was conducted by Nick Bala and his colleagues at Queens University. In 1999, surveys were sent out to judges, in an effort to understand how s. 16 inquiries were conducted. Survey results can be obtained at http.// queensuca/law/witness.htm

scenario in court for child witnesses of all ages. They conclude from their study, that lawyers are skilled at discrediting child witnesses in the courtroom through the use of conventional strategies that intimidate them into silence, lead to contradictions in their responses and produce emotional disorganization and distress.

When children are asked about their cross-examination experience, they generally report that the cross-examination was the most stressful part of the trial. In a three-year follow-up study of child witnesses (Sas et al., 1993), child witnesses were asked for their perspectives of the cross-examination. One adolescent child made the following statement when asked to describe the cross-examination: "It was all misleading questions and trickery" (p. 113). Another younger child referred to their memory of the cross-examination in this way: "The only thing I remember is how the defense lawyer grilled me, twisted everything I said, made me feel like a criminal and my step father the victim" (p. 114). A very small child reported "I hated him [the defense lawyer] because of the way he asked the questions, he scared me" (p. 118).

There is no doubt that this stage of the process is particularly difficult for children and often contributes to their demise as credible witnesses. Although this may be the intended goal of the cross-examination, the method by which this is accomplished does not recognize the imbalance that exists between the adult questioner and the child who responds.

1.8 Facing the Accused — The Impact on Child Witnesses

Of all the fears that child witnesses report, facing the accused is ranked by children as the most intense (Sas, Austin, Wolfe & Hurley, 1991; Whitcomb et al., 1994). Many studies have documented how children are fearful about talking in front of the accused in the courtroom. It is no secret that children are often threatened by abusers not to tell about the abuse, and are afraid for their personal safety on the stand when they describe what has happened. The nature of the threats that have been used to inhibit disclosures have been well studied, and from these studies it is apparent that children are often intimidated into silence, feeling vulnerable to further abuse when they are in the presence of the accused. Unfortunately, the same abuser-victim dynamic can exist in the courtroom.

Hafmeister (1996), in a survey of a large sample of American judges, questioned them on their efforts to minimize the stress of child witnesses in their courts. He found that most judges understood that children were fearful of the accused, but were still not inclined to use screens or closed circuit television provisions to protect them. They offered no explanation for this reluctance.

In the recent survey by Bala (1993) of approximately eighty Canadian judges, regarding their inquiry and their use of legislative provisions to protect child witnesses, one judge acknowledged that the presence of the accused was often overwhelmingly frightening to a child.

Despite everyone agreeing that children are often very frightened to face the accused in court, screens and closed circuit TV provisions are rarely used for child witnesses. At least in Ontario, most children testify in the same room as the accused, sometimes only a few feet away. They may be subjected to stares by the accused, subtle gestures, or even whispered comments,

which go unnoticed by everyone else, but have a negative impact on their ability to tell the court what has happened. In children, fear of the accused does not promote truthfulness and a candid account.

1.9 Modifying the Criminal Justice System's Expectations of Child Witnesses

In summary, we have many expectations of child witnesses, as Table 1 demonstrates. Most of these expectations relate to traditional ways of dealing with matters in court, and few of the expectations take into consideration the developmental abilities and vulnerabilities of children. Historically, the actual treatment of child witnesses and the reception of their evidence on the stand by courts in Canada have changed very little. As more and more child witnesses testify in court, the criminal justice system needs to become more innovative, the procedures more conducive to receiving children's accounts of their victimization experiences. As a better understanding emerges regarding the communicative abilities and the emotional needs of children when they testify, unrealistic expectations of children will hopefully diminish and procedural accommodations will be offered by the court to ensure that child witnesses are equal participants in the process.

Table 1

Expectations of Child Witnesses and the Developmental Skills Involved

Behavioral Demands	Developmental/Other Skills Involved
Demonstrate familiarity with Court Procedures and legal terms	"Domain specific" knowledge & experience
Demonstrate an understanding of the oath, truth, and lie	Abstract thinking, religious and moral understanding of concepts
Stand alone in the witness box	Self-confidence, social independence
Testify in front of strangers	Self-confidence, social independence
Face the accused	Courage, calm temperament
Understand difficult questions	Adequate Receptive language
Withstand intimidation, social pressure, suggestions by lawyers	Emotional self-regulation
Retrieve memories even after long delays	Well-developed memory function (short & long term)
Respond to questions meaningfully	Adequate Expressive language
Appear credible and confident in the witness box	Testimonial competency or all the above

II. CHILDREN'S COGNITIVE ABILITIES AND THEIR IMPACT ON COURT TESTIMONY

Cognitive developmental research, where we draw most of our understanding about children's thinking processes, is a significant area of developmental psychology that investigates the acquisition of knowledge in children. The relevance of cognitive development research for professionals working in the criminal justice system with child witnesses cannot be overstated. Many of our questions about the testimonial capacity of children can be answered by a better understanding of the cognitive abilities of children of different ages. For example, is it reasonable to have children as young as three testify in court about their experiences given their stage of cognitive development? What does this area of research tell us about how young children make sense of the world around them, how they develop strategies to organize the information they perceive and how they communicate that knowledge? Should we modify the way we interact in court with children of different ages based on what the research demonstrates about their cognitive abilities? Unfortunately, despite an abundance of research in developmental psychology on children's cognitive abilities, there has been little impact on the way child witnesses of different ages are treated in court.

There are three areas that form the basis of most research on children's cognition. The first area is the study of the structure of children's knowledge, in particular how knowledge is represented by children and how it changes as they get older. For years Piagetian theorists have suggested that there is a global systematic stage-like change in how knowledge is represented in children (Piaget, 1983; Wadsworth, 1971). Piagetian theorists hypothesize that all children must go through each developmental stage in succession as they age, and that children of the same age are remarkably similar in their cognitive abilities. This view of children's cognitive abilities has generally been widely accepted and appears to have impacted on the general treatment of children by the courts and the reception of their evidence. Many procedural decisions are made based on the age of the child witness offering evidence (e.g., children under fourteen must engage in an inquiry into the oath before they testify and legislative provisions such as screens and even the availability of a support person for child witnesses are limited by the children's ages at the time of testifying). Age specifications in statutes appear to represent implicit developmental frameworks (Woolard et al., 1996).

However this global theory of cognitive development has come under increasing scrutiny. As early as twenty years ago, an unevenness in children's cognitive abilities was discovered by Fischer (1980). At that time, he suggested that children could be at one stage in one cognitive ability and in another stage in another, something Piagetian theorists refuted. Recently, Klahr (1992) has suggested that cognitive development is more about systematic changes in children's "capacities" to represent knowledge, than about the actual structures in which their knowledge is represented. This too challenges early Piagetian cognitive theory. Both the unevenness in cognitive abilities in children and the emphasis on the capacity in children to represent knowledge, reflect the current notion in cognitive developmental research of a more fluid dynamic development in children, in which cognitive abilities are constantly shifting and individual differences are considered.

The second focus of cognitive development research in children has been on the processes by which children acquire knowledge. How do children store and organize information about the world around them? How does their knowledge regulate their behavior in different situations? It has been suggested by Rogoff (1990) that cognitive development in children is an apprenticeship in which children slowly acquire knowledge and skills by participating in society's structured activities together with their parents. The hypothesized processes by which children acquire the knowledge to help them make sense of the world and assist them to actively engage in it, include all of the following; sensation, perception, attention, memory, concept formation, language, symbolic functioning and thinking (Lee, 2000). For example, much research has been devoted to understanding how a child learns language, how they think about the world, and how the various processes such as attention and language interact to affect a child's behavior. Is it true that in order for children to think about something in the past, they first need language? Are pre-verbal children not able to remember events until they develop vocabulary to give labels to objects and descriptions for events in their world? When can children think about something that is not directly in front of them?

Researchers have found that even children under twelve months of age will remember an object that is taken away from their point of vision. Is it only because they have developed a word symbol or concept for the object? Is part of the memory difficulty present in very young children related to their lack of language skills? These and other questions are important to consider, in particular because they have implications for preschoolers' testimonial abilities, and for young primary school aged children, who do not have well developed vocabularies or meta-cognitive frameworks to organize experiences.

The third focus of cognitive development research has been on the actual acquisition of specific knowledge domain. What do children know and how have they acquired those facts? What is the impact of the environment on children's knowledge? What do most children of different ages know about the physical world? This area of study has particular significance for children's involvement in the court system. Most children do not have any experience with court process and have not ever been exposed to a courtroom or the expectations of the witnesses. They are unaware for the most part of the legal system, and do not appreciate the fact that matters are routinely dealt with in court.

At what age do children acquire the skills that are fundamental to the role of witness and how do they learn theses skills? It is generally agreed that testifying in court requires 'domain specific' knowledge. How many children are familiar with the roles of various court personas, the procedures, which exist, and the reasons why matters are brought to court in the first place? Does this lack of knowledge and understanding of the adversarial system in any way affect the reliability of the evidence they give, and does it place them at a disadvantage compared to adult witnesses during a trial? Is it possible to compensate for this lack of knowledge by educating children about the court system?

What about other knowledge? Children often have to give evidence about complex social issues such as sexual abuse and domestic violence. Does a lack of sexual knowledge, unfamiliarity with sexual terms and a lack of labels for body parts make it more difficult for children to testify about sexual abuse?

The area of cognitive developmental research has examined different aspects of children's cognitive abilities, many of which have direct implications for testimonial competency. The next few sections will highlight some of there pertinent areas.

2.1 Bridging the Gap in Knowledge for Child Witnesses

The notion of a "zone of proximal" development in children suggests that one cannot teach children what they are conceptually not ready for. Does this mean that in the case of very young children we will not be able to explain how the Criminal Justice System works and what their role as a witness will be? Is it possible to scaffold or bridge children's knowledge of court by combining a preparation approach that reduces the complexity of the demands placed on children testifying and teaches them as much as possible about court and their role as a witness? Are there some concepts which children of certain age ranges will not be able to respond to despite preparation?

Much of the court preparation that is offered to children by various witness programs focuses on bridging the knowledge gap in children, by offering them basic didactic information regarding the procedures in court and the expectations of them as witnesses. Depending on the age of the child more or lesser amounts of information are taught, but there appears to be a minimum core curriculum, which forms the basis of most preparation programs. What has not been adequately studied is the efficacy of the preparation offered by most programs and whether children emerge with not only specific details and terminology, but also a more global understanding of how the court system works. It can be argued that without this more global understanding, children are at a disadvantage because they fail to appreciate the premises upon which the proceedings are based. That the process is adversarial in nature and not simply fact finding, is an important concept, one which is not appreciated by many child witnesses.

According to Melton (1981) even if a child doesn't comprehend a situation completely, they can still remember relevant facts for court. In reviewing the current research on children's cognitive abilities, a general observation that has been made of the forensic value of children's reports, is that even very young children can be logical about simple events that have meaning in their lives, especially when the events about which they are asked are emotionally salient for them (Goodman, Rudy, Bottoms, & Aman, 1990; Orbach & Lamb, 1999; Steward, Bussey, Goodman, & Saywitz, 1993).

A single case study reported by Jones and Krugman (1986) described the disclosure by a three-year-old girl of her abduction, assault and abandonment in an outhouse pit. Her account was found to be remarkably complete and highly accurate, when it was later compared to the confession by her adult abductor. In another study of preschoolers' accounts of traumatic injury, Peterson and Bell (1996) found that children's memories for traumatic injuries were good. Even three-year-old children were able to provide very accurate information about their injury and trip to the hospital.

When children enter the courtroom however, difficulties arise as they are asked age inappropriate questions about the events that they have experienced or witnessed. Little attention

is paid to their cognitive abilities. Even if they enter the courtroom with a clear idea of what has happened to them, they may not be able to share their memories because of the way in which the questions are asked in court and because they lack an understanding of the unwritten "rules of engagement" in the courtroom.

2.2 Understanding the Meaning of the Truth and Making a Promise to Tell the Truth

Much has been written about children's knowledge of the truth and their appreciation of the difference between a truth and a lie (e.g., Gopnik, & Astington, 1998). The truth seeking function of a trial is dependent on many different things, but in a case of child abuse where the child is the only crown witness, it is vital that the child understand that they have to provide truthful testimony. Haugaard (1993) suggests that in order for the truth to be a meaningful concept in communication between two people, they must share the same definition. Research into children's perceptions of truth and their responsibility to tell the truth, suggests that young children have definitions of truth and lies that are qualitatively different than older children and adults.

Piaget (1962) determined that the definition of lying held by children under age seven, was to commit a moral fault by means of language. His research showed that young children under five tended to define lies more broadly than older children or adults. Children between five and seven tended to judge events from a perspective of moral realism. If a statement was inaccurate, children perceived it as a lie, if a statement was accurate, it was perceived as the truth. Also in the case of younger children, the intent of the speaker did not generally count in their determination of truth and lie. It was only as children got older (over 7) that the intent of the speaker became more important than the outcome.

A study by Haugaard et al. (1991) examined young children's definitions of truth and lies in response to a series of three vignettes. The first vignette described a situation in which a girl lied about being hit by someone. The second vignette described a girl who lied to protect a friend. Finally the third vignette described a girl who lied under the instruction of a parent. The investigators found that most of the children they tested did not have definitions of a lie that would disqualify them as competent witnesses in court. All children tended to be able to identify the critical factor in determining the truthfulness of the girl's statement in the three vignettes. Ninety-four percent of the children correctly recalled that the girl was not hit and said she was lying, and ninety-one percent of the children stated that a friend who lied to the teacher to protect a friend was telling a lie as well. With respect to the vignette involving parental instruction to lie, the majority of children recognized that the girl was lying even when instructed by an adult to say things happened in a certain way. The children examined in this study, ranged in age from four to seven. The authors concluded that most young children under 7 could discern a lie from the truth, and only a small percentage of children erred. However, they cautioned that one should not assume that all children have an adult-like definition of the truth.

A related area of research by Astington (1988) on the act of promising also has relevance for the conduction of inquiries into the oath. Her research showed that children's understanding of the circumstances and obligations entailed in promising emerges fairly late in their development. In her study, she determined what types of *speech act* five to thirteen year old

children would call promising. The children were presented stories in which a speaker sometimes promised an event outside their control (predicting), or promised that a past action had been performed (asserting). Children under the age of five had difficulty differentiating between predictions and assertions because they tended to focus on the outcome as the determining factor. In almost all cases, children's judgment of the *speech act* as promising or not, was in agreement with the fit between the *speech act* and the outcome. Between six and nine years of age however, children started to distinguish between promising and predicting in terms of the speaker's responsibility for the outcome.

Astington (1988) concluded that the most important result of this study was that children did not have a concept of promising as just a *speech act*, as something done simply by saying. Children saw promising as including the performance of the promised act. For them a promise was something you said you would do and was not a promise unless it was done. For the children in her study, a promise was a true statement. This definition of a promise differs from the definition of adults who view a promise as simply a *speech act* that does not depend on the outcome. It has important implications for court, because it is suggested that when children promise to tell the truth, they mean to do so with actions.

Young children's understanding of promising has been more recently studied by Maas and Abbeduto (1998). Their research replicated Astington's findings on children's understanding of promising. Results from these studies support the recommendation that child witnesses under fourteen, should simply promise to tell the truth when they testify, rather than engage in a long drawn out *voir dire* to determine if they can swear an oath. It is encouraging that research findings suggest that when children promise to tell the truth, it includes the act of telling the truth.

Support for this less intrusive practice and more straightforward approach was offered in an early paper by Melton (1981) entitled Children's competency to testify. In it, he suggested that asking children about the meaning of such abstract terms such as the truth, an oath, a lie and promise, tells you more about their cognitive intellectual development than their propensity to tell the truth. He recommended that having children simply promise in court to tell the truth was the best alternative.

2.3 Children's Abilities to Make Inferences About Other's Intentions, and to Take Another's Perspective

If children under ten who are testifying are asked to infer the intent of an accused ("What was the accused trying to do there, was he hoping to scare you and trick you?"), or explain another child witness's perspective ("What were the other children thinking when the accused ran up to them?") or what another person would see if they had been there ("What would I see if I walked into your room?"), they would have great difficulty. This is because young children have problems describing what others are feeling, are not very astute at inferring intent, and tend to respond to those types of questions by simply projecting their own feelings and their own perceptions onto others.

Research on children's abilities to infer intent in others, suggests that although very young children can understand an intended simple act of an adult, they can't necessarily understand the adult's intentions (Meltzoff, 2000). This skill develops slowly over time and with repeated exposure to the behaviors of significant others around them. Asking young children on the stand to infer motives to other's behavior (Fivush & Hudson, 1990), or having them take another's perspective when they have not developed an appreciation for the fact that others may see things differently than they do, is misguided and generally leads to inaccuracies in children's responses as they try to meet the demands (Selman et al., 1983).

The development of "mentalism" which refers to children's understanding of the mind (both their own and others) is critical to their ability to infer. There are individual differences in the age at which children first begin to construe others as having independent psychological states that underlie their behavior (Fivush & Hudson, 1990). Unfortunately, children three and younger have very limited abilities to reason about the knowledge and states of others. Typically all children under the age of seven will struggle unsuccessfully with this demand and children between the ages of seven and ten will need assistance to accomplish this task. Over the age of ten, much will depend on their individual experiences. The implications of these findings for the court are obvious. The nature of the questions asked of child witnesses must take into account their abilities to infer intent and appreciate other's perspectives.

Children also have difficulty dealing with ambiguous verbal messages on the stand. This is because they do not maintain a distinction between the actual messages in the question on the one hand and the speaker's intended meaning on the other. Their social naïveté makes it difficult for them to see the double intent that exists in a question put to them. Unfortunately, in court there are many occasions during a cross-examination that questions have double meanings. Children are asked questions, which on the surface seem straight forward, but have an ulterior goal beyond the simple answer.

2.4 Dealing with Hypothetical Questions

Children can have difficulty responding to hypothetical situations that are presented to them by lawyers when they are on the stand. Questions such as ("What if I told you that the car was not able to fit in the garage? What if I told you that he wasn't tall enough to reach the window from the ground?") are not appropriate. Children under ten do not possess the abstract reasoning powers to allow them to integrate this new information and to apply it to their existing knowledge about the situation. They generally do not understand the term "What if?" Most children will simply deny that the suggested scenario is an accurate description. They will not be willing or able to entertain another hypothesis or integrate new and perhaps contradictory information, because this involves a level of abstraction of which they are not capable. Others will provide a response, which does not incorporate the provided information. This is because they lack the ability to change their own perspective and imagine another set of circumstances.

Children typically do not develop the ability to deal with hypothetical questions until they are at least ten or twelve and even then they are unsure of how they should answer. Advising lawyers not to use this type of question would be a good step towards ensuring that the responses provided by children are accurate and within their stage of cognitive development.

2.5 Using Scale Models to Explain a Situation to the Court

Young children are often asked to explain their knowledge of something by referring to a presented symbolic representation, "Show me on this drawing of your bedroom, where the bed was in relation to the dresser and where you were standing in the room". DeLoache (1990) in her chapter entitled "Young children's understanding of models" suggests that when we use a scale model of a larger space, young children may have difficulty simultaneously viewing the model as an object in its own right and as a symbol of something else. The ability to use models to explain situations increases gradually with age. Development of the ability to accurately reduce to scale both distances and heights in models is much more complex and takes longer to develop. Scale drawings and models made by children under ten may not accurately depict distances, such as how far away a bed and dresser are, or the exact placement of a door. This is because they have not developed accurate concepts of measurement, nor have they learned how to represent objects on a smaller scale in a relative manner to each other. When questioning children on the stand, everyone must remember that the ability to use representational models varies widely, especially in young children and their use should be considered cautiously.

The difficulty children have using a scale model is much less of a concern when children are permitted on the stand to use dolls or figures to represent themselves or others, or when they are asked to point out on a figure where on their own bodies they were tampered with. Props can be especially useful if children are too shy, or lack the language skills to describe the acts perpetrated (Morgan & Edwards, 1995). Caution should be exercised however with children under three to insure that they understand that the doll figure is meant to represent them. The development of a sense of self-separate from that of others, and the ability to imagine that the doll is representing that self is necessary. Luckily, most children over the age of three can do this competently.

2.6 Children's Tendency to Attribute Knowledge to Adults

It is generally reported that children do not as a rule appreciate that other people do not know something that they themselves know. This is the case even if the interviewer asking them the questions has not witnessed the to-be-remembered event (Saywitz & Nathanson, 1993). This tendency for children to assume the existence of knowledge in adults is related to a 'social desirability' factor (Robinson & Robinson, 1982), which causes children to view adults as omniscient. Unfortunately, children's assumptions that adults know everything that has happened to them, can have a negative effect on the way they respond to questions by lawyers in the courtroom. On the stand, young children will often assume that the lawyer asking the questions really knows what has happened and so they do not offer spontaneous information. An example of this was the case of a child witness who expressed surprise during a court preparation session, when she was told that she had to identify the accused in the courtroom. "Don't they even know who he is?" she asked incredulously (Anonymous, 2001).

Children neglect to fill in the missing gaps in information when they are explaining what has happened to the court. They tend to offer little or no details in their accounts because they assume that the adult listener knows the details and has the same information as they do.

Unfortunately this strategy does not work very well in the courtroom, because filling in the gaps is the child's role on the stand, not the lawyer's role. In order to obtain more complete information from children, direct questions are typically required. In this way, lawyers elicit details about an event from children who provide only the bare facts in their free narrative. The danger of course is when interviewers or lawyers in court use misleading or suggestive questions.

Informing children up front that one does not know what they know has been shown to reduce the suggestibility of misleading questions (Mulder & Vrij, 1996). This strategy should definitely be employed with children on the witness stand before they are asked any questions. In court preparation sessions, telling children that only they have the crucial information because they were there is a useful way in which to empower children to give more complete answers when they get to court.

2.7 Children Don't Know That They Don't Know Things

Another area of potential difficulty for young children on the stand is that they don't know what they don't know. This problem was identified over twenty years ago in a study by Markman (1979) entitled *Realizing that you don't understand: Elementary school children's awareness of inconsistency*. He was one of the first cognitive researchers to realize that children can have difficulty with "comprehension monitoring". Simply put, they often fail to realize that they have not understood material or questions put to them. For example, in the context of court, when children are asked if they know what a *hearing* is, they may nod affirmatively, but then if they are asked to explain, their responses can reflect a complete misunderstanding of the term.

In their research, Flavell et al. (1981) demonstrated that at times children fail to realize that they have insufficient information to correctly interpret the world around them. This has important implications for their role as a witness in court. When children are testifying, it is important that they actively monitor their own comprehension throughout the proceeding. When they are responding to a question, they must understand the meaning of the question so that their responses are accurate descriptions of what has transpired.

Although they are generally too young to have what can be described as "higher order" understanding, more specifically an ability to put into context the purpose of some of the questions put to them and the relevance of their answers to their overall credibility, they must at least be able to understand the simple questions put to them.

Children's monitoring of their own comprehension develops slowly over time. Children often need external assistance to help them monitor their comprehension. This is particularly true of children under ten who do not always do it on their own. Obviously one step towards making sure of children's comprehension in court, is to respect the cognitive limitations of children, by asking simple well-phrased questions that are age appropriate. This goes a long way to improving the odds that a child will understand what is being asked and respond appropriately. The other step is to continuously check their comprehension by asking them during the examination-in-chief or cross-examination, to either paraphrase what has been said to them, or explain what they believe the words mean.

Once children are ten and older, there are different issues to be aware of with respect to their ability to monitor their own understanding. Although their ability to monitor their comprehension improves with age, older children tend to be unwilling to share their ignorance with those around them, usually out of embarrassment. Their comprehension must therefore be monitored as well, but in a way that does not embarrass them and allows them the opportunity to concede their lack of understanding.

2.8 Children's Abilities to Estimate Duration, Frequency of Events and Dates

Children are usually asked when incidents occurred and how long they actually lasted. Often they are asked to provide information on the actual number of times abusive acts took place in the past. What does the literature actually tell us about children's abilities to count and estimate frequency? Lyon (in press) points out that one has to be very careful when reviewing the literature on children's competencies in any of these areas. He suggests that developmental research generally refer to the youngest age at which a competency *first* appears under optimal conditions. Testifying on the stand is likely not an optimal condition and we need to keep this in mind when we determine the appropriate age to ask certain types of questions in court, especially regarding measurement.

Observations of children on the stand suggest that they have great difficulty estimating the number of times an event occurred. This is especially true when children are asked to recount the frequency of abusive incidents that have spanned several years. Children tend to be able to talk about the first and last time an event occurred, but have difficulty enumerating the other times in between. Although young children may be able to count up to 100, this is only because they have memorized the referents in order. They may still demonstrate difficulties counting up similar events and coming up with a grand total for the court.

Conventional systems of time measurement such as seconds, minutes, hours, days, weeks, months and years are learned gradually over the course of elementary school (Saywitz & Camparo, 1998). There is great variability in these skills, even in same-aged children. This is because these concepts are very abstract and children only understand them once they can make a connection to real life events. Young children are not able to definitively say how long something took to complete. The duration of an event is hard for them to estimate because they have not yet learned how long seconds, minutes and hours take. They also do not appreciate the relationship between these time segments. Very young children may respond to a question like "how long did the touching last?" with a response suggesting five seconds, when they actually mean something more like five minutes! This of course presents a challenge for the court. Determining that a child is not credible because they have told the court that the sexual intercourse took only five seconds ignores the argument that developmentally inappropriate questions do not further the goals of fact-finding and truth.

With respect to days, weeks, months and seasons of the year, young children may be able to rattle off the names of the days of the week or the months of the year, but they still may not have an understanding of the broader picture, that is the relationship that exists between all of these concepts. Many children do not know which days are the weekdays and which days make

up the weekends. Some children do not know which months occur in the different seasons of the year. Most children ten and younger, know the current calendar year and the year they were born, but have difficulty placing other significant events along a time line in between. That is why young children do not know if an event occurred over a long time ago or a short time ago (Park & Renner, 1998). Especially for preschoolers there is no distant past, just a yesterday. For primary school aged children, there is a past, but it is very compressed.

With respect to telling time, preschool children cannot tell time accurately. That skill generally develops in children over eight and even then is not well established until age nine or ten. Asking young children what time a certain event occurred is likely not going to be helpful, as the responses will not be accurate. It is more meaningful to ask children to relate when an event occurred relative to other time markers in the day (breakfast time, lunch, after school, supper, just before bed).

A related ability to telling time is the estimation of age. Children have great difficulty estimating another person's age. Anyone who has children in elementary school has arrived at school on "meet the teacher's night" to find out that their child's very old grade one teacher is at most twenty-nine. The best way to approach that line of questioning is to have the child compare the person they are talking about to someone they know in their family.

In summary, observations of court proceedings have shown that despite known difficulties in the area of measurement and time, child witnesses are regularly asked to explain to the court exactly when an event occurred, that what time of day, which day of the week, what month and what year. They are asked to estimate how long ago the event occurred relative to when they disclosed and relative to the court hearing. If more than one incident occurred, they are expected to remember how many times the incident happened and even how much time elapsed in between incidents. They are also expected to estimate the length of time the incidents endured. This continues in spite of a sound knowledge base indicating that this is not the way to question children about events that have happened in their lives. The approach, which should be endorsed by the court, is the promotion of questions that do not require well-established numeracy skills and an ability to place events exactly in time.

Another approach is to insure that when charges are being laid on behalf of a child complainant, a long period of indictment in which the offences are alleged to have occurred should be considered. Perhaps child complainants can only remember that they were living in a certain house, or attending a certain school when victimized. A longer period of indictment will allow for this flexibility. In determining this indictment period, it will be helpful if family families can remember other relevant events that may assist the court to narrow in on the dates.

Based on findings emerging from the research, the rule of thumb should be that abstract concepts such as estimating the time and date an event occurred, determining the frequency and duration of incidents should be avoided by everyone when possible. However, regardless of the child witness's age, asking the right questions in court will be a challenge and deserves careful consideration.

2.9 Children's Concepts of Court

The reality is that most children know little about court and the criminal justice system before the age of ten and why should they? Some children may have misconceptions about court based on their exposure to television programs that exaggerate or distort what really takes place. Others have no idea about what happens in a courtroom. Child witnesses find themselves on the stand when they are complainants in sexual abuse or physical abuse cases, or perhaps as witnesses to the abuse of other children, or when they observe the assault or murder of adults in domestic violence cases. Whenever it is deemed that they have forensically relevant information to share about what they saw or experienced, they can be potential witnesses. When that decision is made, they are then thrust into a system that is very foreign to them.

Warren-Leubecker, Tate, Hinton, and Ozbeck (1989) have pointed out that a child may see the judge as a big man in a black robe with the power to punish, yet not understand that they will not be the object of that punishment. Younger children in particular may think that they understand the legal process, but in reality are subject to serious misunderstandings.

There have been a number of excellent studies assessing children's understanding of the legal process (Cashmore & Bussey, 1990; Flin et al., 1989; Melton, Limber, Jacobs, & Oberlander, 1992; Peterson-Badali , Abramovitch & Duda, 1997; Saywitz et al., 1990; Warren-Leubecker et al., 1989). Most of the studies have focused their attention on age differences in children's comprehension of court procedures. One consistent finding that has emerged is that as children get older, they do acquire a better understanding of the legal terms and court procedures.

Flin et al. (1989) studied approximately ninety Scottish children, aged six, eight and ten years. They found that by age ten most children understood the role of the judge, the role of a witness, the role of the police, and what it meant to break the law. These children did not however understand the roles of the lawyers and of the jury. They were not familiar with what a trial was or what was meant by the word "evidence", and none of them understood why a court would rely on evidence in determining the outcome.

In the United States, Warren-Leubecker et al. (1989) tested over five hundred children between the ages of three and fourteen with respect to their legal knowledge. They too found that there were age trends in legal knowledge. Of particular concern was their finding that young children between four and eight knew very little about legal personnel and court procedures.

In 1990, Cashmore and Bussey studied Australian children's knowledge of court personnel. They examined children between the ages of six and fourteen and similarly found that there were age trends in knowledge. They found that the role of the judge and witness was understood first and then the role of the lawyers and jury. In 1997, Peterson-Badali and colleagues found that most youth offenders charged with offences were unclear about the lawyer-client relationship. They examined youth at risk of re-offending at a treatment program and were concerned about the lack of knowledge that these young adolescents demonstrated regarding due process and the criminal justice system.

Victim witness support workers and child witness support workers, who prepare young children to testify in court, indicate that they are often struck by children's ignorance of legal terminology and procedures and by their naïveté. Children typically assume that all the adults in the courtroom will believe them when they explain what has happened and that all the adults (other than the accused) want the same court outcome as they do. Often this belief is even extended to include the accused, especially when it is a family member. Young children have been overheard to say with great conviction that their offending parent will probably tell the truth about the abuse in court because no one is allowed to lie in court, or that the offending parent will tell the truth because they will feel badly for them (the child) when they cry on the stand. Needless to say, this does not happen often in court.

Children's feelings of goodwill and their high expectations of the adults in court are especially extended towards the judiciary. Children cannot understand how a judge will not believe them when they are telling the truth. Many children have unrealistic expectations of the judge, seeing the judge as some one who will right all the wrongs that have been committed by the accused. It is not surprising that explanations of how a judge arrives at a decision employing a standard of *beyond a reasonable doubt* is so hard for child witnesses to comprehend. They expect the judge to see the events from their perspective. This is one of the reasons why court preparation is so important for child witnesses.

Another reason why children have difficulty in court is that children do not appreciate that the defense lawyers are not on their side. It can be quite painful to watch their bewilderment when they are rigorously challenged and intimidated on the stand. This is because young children (under 10) have difficulty understanding the adversarial system, the competing roles, two diametrically opposed views, and two different goals related to the same court matter. Children do not have the necessary cognitive skills to appreciate the underlying rules of the game. As a result, they are not guarded or careful in the same way as an adult will be when they are questioned on the stand. They do not appreciate that the motivation underlying a challenging cross-examination is to discredit them. When a defense lawyer suggests misinformation to them, they tend to view it as an honest mistake, not a tactic to discredit them.

Developmental studies support anecdotal observations that children under nine years of age may expect a degree of sincerity that is not present in the adversarial process because they have not yet developed an appreciation of the conditions that violate the *sincerity postulate*. This failure to understand a lawyer's intent can influence how readily a child might acquiesce to misleading questions on the stand. Not understanding the "big picture" in a court case makes child witnesses more vulnerable to attacks on their credibility.

An appropriate analogy might be a situation where as part of an assessment process, an adult is asked to put together puzzles from the Weschler Adult Intelligence Scale (WAIS), but not told that there is a time limit in which to complete all the puzzles. Not knowing this, the adult works slowly and meticulously reviewing each step for accuracy, but only completing half the number of items. This strategy would lead to a very low overall score. In that scenario, understanding that time is a factor was very important and not realizing this negatively affected the outcome. A similar problem confronts young children when they testify in court. Because they are not aware of the underlying rules of the game and because they operate under a sincerity

postulate that is not always shared by the adults questioning them, the outcome can be compromised.

Eltringham (1999), in a draft paper written with Aldrige entitled *The extent of children's knowledge of court as estimated by Guardians ad Litem*, suggests that many professionals in the criminal justice system overestimate the extent of children's knowledge about court. In this paper he attributes this overestimation of children's knowledge to a failure to adopt the "psychological perspective" of children who are trying to navigate the court system. In the study, they found a discrepancy between what eleven-year-old children actually knew about court and what the *Guardians ad Litem* thought the children knew. They surmise that children are at times not well prepared because of this misperception and advise that more effort be made to assess children's understanding and knowledge.

In a recent PhD dissertation at Trinity College in Dublin Ireland, Maunsell (2000) reported her results on Irish children's understanding of the criminal justice system. Like other researchers, she found a main effect of age on children's understanding of the legal system. The older the child, the more familiar they were with legal terms and procedures. Based on her findings, she concluded that most children under the age of nine do not possess sufficient understanding of the criminal justice system to enable them to participate meaningfully as witnesses. She strongly advocated for court preparation for all child witnesses to bridge this gap in knowledge.

If anything, all these studies emphasize the imbalance that exists in the courtroom when children who are not familiar with the legal terms and court procedures are up against adults who understand more and have a sense of the "whole picture". The need for court preparation programs to help child witnesses understand the criminal justice system and interact more effectively cannot be overstated.

In summary, variability in children's thinking and knowledge exists between children of different ages, and between different children of the same age. Variability can even occur in the same child in different problem solving situations (Siegler, 1991). Children can function at a higher developmental stage in one content area than another, if they have had extensive practice (Lee, 2000). Woolard et al. (1996) suggest that psychological research must mirror the trend in developmental research toward identifying developmental pathways or trajectories that lead to relevant behavior. In the case of child witnesses, this is particularly important, as ignoring this variability in cognitive abilities can create difficulties for professionals who are faced with the prospect of determining the testimonial capacity and communicative abilities of a particular child who is going to testify.

Table 2 summarizes the relevant findings on children's cognitive abilities as they relate specifically to the demands of being a witness in court. Clearly the findings speak to the need for lawyers and the judiciary to modify the nature and content of many of the questions that are put to children on the stand.

Table 2

Cognitive Skills Present in Children Relevant to Testimonial Competency

Cognitive Abilities	**Preschool**	**Early Primary**	**Later Primary**	**Early Adolescence**
	(3-5)	(6-9)	(10-12)	**(13-14)**
Domain specific court knowledge	No	Minimal	Yes	Yes
Comprehension of oath, lie, truth and promise	Minimal	Yes, but not the term oath	Yes	Yes
Ability to infer other's intentions, motives and feelings	No	No	Yes	Yes
Comprehension of ambiguous verbal messages	No	No	Yes	Yes
Ability to comprehend a hypothetical question	No	No	With difficulty	Yes
Ability to estimate times, tell time and provide accurate measurements	No	No	Yes	Yes
Ability to monitor one's own comprehension	No	No	Yes	Yes

III. LANGUAGE DEVELOPMENT IN CHILDREN

From birth to ten years of age, children learn to discriminate and articulate sounds, comprehend increasingly more complex questions, and give more complex intelligent answers (Saywitz & Goodman, 1996). They learn the meaning of words, how words are used in sentences, and the rules of language that dictate the way the words are connected to produce different meanings. This is not an easy task. In court, child witnesses of all ages are expected to respond to questions put to them on the stand in an intelligible and credible manner. Adequate language skills are a pre-requisite.

In the first two years of life, children develop conceptual machinery to link object names with their referents. As any parent will attest, children become little naming machines, learning new words at an exponential rate. At first, there is a tendency for them to apply the same words to different classes of objects (e.g., calling all animals "doggie"; all drinks "juice"; or all transportation vehicles "cars"). Once they learn a referent for an object however, they begin to do the opposite too, believing that only their dog is a doggie and that all the other dogs are something else. Through the process of social learning, children model what they hear, learning to generalize when appropriate and respecting singular cases when necessary.

The generalization process involves the process of abstract thinking, specifically the ability to categorize items by their similarities and to extend terms to objects that share certain characteristics. Words like "fruit" or "animals" which develop later, are considered hierarchical terms which include classes of items with similar characteristics. An interesting example of an abstract hierarchical term used during a cross-examination of a very young child is given by Singer and Revenson (1996). In the case they describe, a preschooler denies seeing a weapon at the scene of a murder, but later on when asked more specifically if he has seen a gun, he answers yes. The problem of course is that the child has not yet learned the hierarchical term "weapon" to refer to objects such as guns, knives etc. Once a direct question is put to the child using vocabulary and concepts he can understand, he is able to provide the information to the court. In this case, it is lucky that the lawyer pursued another line of questioning with the child.

3.1 Toddlers

Most children by age two, have about five to six hundred words at their disposal. They do not however have the ability to organize these words together into full sentences. It is readily apparent that a significant discrepancy exists between a toddler's receptive language abilities and expressive production. For example telling a two-year old to "pick a ball off of the floor" is likely to be understood and depending on the mood of the child, carried out. However the child will not be able to repeat that exact command to an interviewer if asked to do so. He might be able to say 'ball' and 'up' in a two or three word cryptic sentence, or maybe not. The ability to produce a complete sentence with the correct verb and appropriate prepositions is not developed until the child is older, at least three.

3.2 Preschool Aged Children

Preschool aged children (three to five) have a greater lexicon (store of words and idiomatic expressions) available to them. A general rule is that they understand words that have only one or two syllables (Saywitz, 1995). They can usually speak in short full sentences and their recognition vocabulary can be quite impressive. Once again however, their receptive language skills surpass their expressive speech. Their appreciation for the grammatical rules of language is still very unsophisticated and they have considerable difficulty using the past tense, often phrasing their responses in the present even when describing things they have already done.

3.3 Early Primary School Aged Children

In the case of early primary school aged children, prepositions can still present a challenge. Confusion often arises when terms such as "before and after", "under and over", "in and out", "first and last", "in front and behind" are used. It is advisable to canvass a child's understanding of those terms before engaging in the questions. Generally, the research on language acquisition in children suggests that by the time children are between the ages of five and seven, they have developed sufficient language skills to participate in everyday language, but are not so proficient in language use that they should understand everything about a language task. Sentences with a preponderance of difficult words and complex syntax are likely to be misunderstood.

3.4 Late Primary School Aged Children

Due to a limited vocabulary, primary school aged children lack descriptive adjectives, making the provision of details and an elaboration of their accounts difficult. By the time they are in grade three, they have generally developed an increased ability to make better sense of questions put to them, as their receptive speech has increased and their reasoning ability is more sophisticated than preschoolers. Around the age of eight, they have learned to distinguish between different speech acts such as commands, complaints, requests and promises, and are able to recognize these speech acts in both their direct and indirect forms (Walker, 1993). This is important because these speech acts form the basis of conversational skills. What should be remembered is that all of children's language skills co-exist along side their cognitive development and vice versa. Communicative ability remains dependent on the child's available cognitive structures.

As we study conversations that take place between children and adults, we realize that young children (under 10) do not necessarily interpret words in the same manner as adults. They may interpret words literally, that is, either very narrowly or very broadly. Schumann, Bala and Lee (1999), suggest that young children's interpretations of the word "touch" is an example of under extension or narrow use, because children commonly understand "touch" to mean only with the hand and not another part of the body. In this example, one can easily see how a narrow use of a term might present a challenge to a child's credibility in a sexual abuse case where the

child's body was "touched" by the accused's mouth or penis, but the child responded no to the question "Did he touch you?" in court.

3.5 General Language Skills

Conversational speech involves a give and take of questions and answers. The question and answer format used in court during examination-in-chief and cross-examination is not generally how young children converse. They like to introduce their own topics, ask their own questions and express how they feel, much of it unsolicited. They have difficulty just answering the questions put to them, and they do not like to wait for their turn to speak. This of course is not acceptable behavior in a witness, and often times children are cut off in mid sentence when they are testifying. The less formal "give and take" of everyday conversational speech, is quite different than the interrogation they are subjected to on the stand.

Though children demonstrate an increase in the number of actual words they can produce by the time they are in elementary school, they still need to have simple sentences put to them. The general rule of thumb is that you match the number of words in the question with the age of the child. This unfortunately is not standard practice, as a review of child abuse court transcripts by Walker (1993, 1999) has illuminated. She was appalled by the complexity and length of the questions put to children by lawyers and she pointed out that "bad questions hurt not just the child, but those who stand both with and against the child" (1993, p. 80).

Greenstock and Pipe (1996) in their analysis of forensic interviews of preschool and primary aged children noted that children have great difficulty with tag questions (e.g. "She wanted you to go with her, didn't she?" or "There were many people sitting in the dark room, is that a fact?"). They also have difficulty with negative termed questions (e.g. "Didn't you feel angry at him?"). Children only begin to understand those types of questions when they are around eleven or twelve years of age.

Saywitz and Nathanson (1993) suggest that children under 12 generally have problems when questions ask more than one thing at a time. For example, if an eight year old child is asked the following question, "On Monday night, you did, didn't you, go to your baby-sitter's house after school and have ice cream, before you went to the store with your dad?"), she will not know how to answer. It is apparent to many professionals who work with children that a young child will have difficulty breaking down such a question and answering each part separately. In a question like the above, how can the questioner know if the child does respond with a 'yes', what part of the question the "yes" refers to? It is highly recommended that asking several simple questions in order to get the same information is a better strategy.

It is no secret that the language employed in the courtroom is anything but everyday language. Walker (1993) describes the forensic context as one where the exchange of information follows unique and unfamiliar rules for socio-linguistic interaction in an unfamiliar setting. Children routinely are expected to respond to age inappropriate questions, containing language that is too difficult and sentences that contain multiple parts.

If one were to review court transcripts of child witness testimony, it would likely reveal that words such as "frequency, remind, recollection, refresh, estimate, recall, expect, view, regular, routine, occupation, interests, respond, time frame, address, surname, relation, related", and phrases such as "my esteemed colleague, my duty prevails me, without consideration of the facts, notwithstanding what you've been told", to name but a few, are routinely used by lawyers during their examination of children. These words and phrases are not typically used or understood by children in their everyday language, yet are often used in court during questioning.

One obvious recommendation is that more effort be made to tailor the language employed in the courtroom to the child's individual stage of development. This involves some assessment of the child's communicative abilities before they testify, and knowledge and motivation on the part of those asking the questions to phrase them appropriately. Table 3 offers some guidelines from the literature on language acquisition in four age groupings: preschool children, early primary school aged children, late primary school aged children, and early adolescence.

Table 3

Receptive and Expressive Language Acquisition in Children of Different Ages

Language Skill	**Preschool** (3-5)	**Early Primary** (6-9)	**Later Primary** (10-12)	**Early Adolescence** (13-14)
Conversational Skills	Minimal	Yes	Yes	Yes
Understanding of grammatical rules of language	No	Unsophisticated	Yes	Yes
Total Lexicon of words	Limited	Adequate	Yes	Yes
Understanding of higher order referents	Minimal	Developing	Yes	Yes
Understanding of complex sentences	No	With difficulty	Yes	Yes
Proper use of pre-positions	Minimal	Developing	Yes	Yes
Availability of adjectives and adverbs	Limited	Developing	Yes	Yes
Familiarity with different tenses	Limited	Yes	Yes	Yes
Fluidity of speech, proper pronunciation	Varies greatly	Yes	Yes	Yes

3.6 Knowledge of Legal Terminology

As previously discussed, there is a domain specific language required of witnesses that includes legal terminology and a particular language style referred to as *lawyerese* or *legalese*. This language style characterizes the verbal communication in the courtroom between the various court persona and the child witness on the stand. Children are expected to demonstrate communicative competency in order to be able to give evidence, however the real expectation is that they be able to use and understand the language of the courtroom. Unfortunately, given what we know about the lexicon (store of words) and idiomatic expressions of most children under 10, this is unrealistic without court preparation. For very young children, *scaffolding* the gap between their language skills and the complex terminology used in court through court preparation is challenging.

A fair number of studies have been carried out on children's understanding of legal terminology, as previously noted in this paper. Age related differences in children's understanding of most court terminology have been consistently found. Many common legal terms such as *evidence* and *testify* are not familiar to children and younger children in particular do less well than older children when asked what legal terms mean.

Flin et al. (1989) have warned that simple recognition is not always an accurate predictor of accuracy and understanding. It is not sufficient to simply ask a child if they recognize a legal term. For example, at the child witness project in London, one child witness who was referred to a child witness project was asked if she knew what a subpoena was. She nodded, but then went on to explain that it was a male private body part (Anonymous, 1994).

In fact, in the majority of studies carried out to date, most legal terms are not accurately defined until children are ten years of age. An excellent analysis of the responses that children make when asked to define legal words that they do not really know was carried out by Saywitz et al. (1990). They found that there are typical patterns of errors made by children in response to legal terminology that they do not understand. Younger children who are under age eight, tend to make auditory discrimination errors in which they confuse the meaning of words that sound the same, and homonym errors where they do not recognize that words can have two meanings.

Walker (1993, 1994) has found the very same thing in her analyses of court transcripts. There are so many legal terms, which to children, either sound like a familiar word from their everyday language, or have a different meaning outside the context of the court. Some examples that have been frequently mentioned in the literature in studies of children's understanding of legal terminology are: *jury* and *jewelry*, a court *hearing* and *hearing someone speak*, a *court* and a *basketball court*, the *party* in a matter and a *birthday party*, and the list goes on.

Children know less vocabulary than adults, but do not always realize their lack of knowledge. They tend to guess at the meaning of words put to them, drawing examples from their own limited life experiences. It does not occur to them that a word might mean something else, because the social context is different. When corrected, young children resist the suggestion

that there might be another meaning because they tend to be quite single minded and cannot conceptualize that a word can have two meanings.

Schuman et al. (1999) in their excellent article entitled *Developmentally appropriate questions for child witnesses*, give many examples of questions that are age inappropriate and summarize the general cognitive and language skills that children of different age ranges possess. Like others who have written about this topic, the findings demonstrate that there are a number of potential mediators of children's knowledge of legal terms, not the least of which is their vocabulary and their experience of the world. Table 4 provides a summary of the research findings on legal terminology understood by children of four age groupings.

Table 4 : **Common Legal Terms and Roles Understood By A Majority of Children in Different Age Ranges**

Legal terms	**Preschool** (3-5)	**Early Primary** (6-9)	**Later Primary** (10-12)	**Early Adolescence** (13-14)
JUDGE	Yes	Yes	Yes	Yes
COURT	No	Yes	Yes	Yes
POLICE	Yes	Yes	Yes	Yes
JAIL	Yes	Yes	Yes	Yes
LAWYER	No	No	Yes	Yes
TO BE FOUND GUILTY	No	Yes	Yes	Yes
ACCUSED	No	No	Yes	Yes
EVIDENCE	No	No	No	No
TESTIFY	No	No	Yes	Yes
TRIAL	No	No	Yes	Yes
JURY	No	No	Yes	Yes
STATEMENT	No	No	No	Yes
PROSECUTION	No	No	No	No
OATH	No	No	Yes	Yes
LIE	Yes	Yes	Yes	Yes
TRUTH	Yes	Yes	Yes	Yes

IV. MEMORY IN CHILDREN

More than any other area of research in child development, the study of memory, more specifically the study of children's abilities to remember events that have happened to them or that they have witnessed, has been a central focus in the overall evaluation of child witness competency. This interest has been timely, because children have been called upon in increasingly numbers in Canada to testify in legal matters.

Ornstein et al. (1991) suggest that verbal memory is central to effective testimony, as children cannot provide accurate reports about events that cannot be remembered. It is therefore important for the court system that research studies examine how and what young children can recall and how their memory abilities change with development. Only with a clear understanding of the process of memory in children can we even attempt to apply this knowledge to such settings as the courtroom.

Bringing children into the courtroom to talk about their past has not been without controversy. Arguments have ensued over whether or not children can provide accurate accounts of their past experiences and more recently, concerns have been raised over the so called "malleability" of children's memory (Ceci & Bruck, 1993; Poole & Lamb, 1998). The following section will summarize some of the findings to date in the area of children's memory. The problem of suggestibility in children's memory, and current recommendations for interviewing styles which safeguard against tainting children's accounts will be included as well.

The quality of children's memory is best viewed as dependent on developing cognitive meta-structures or frameworks, which assist children in organizing and interpreting the remembered material and facilitating retrieval. Many authors emphasize that memory in children must be understood within the context of their cognitive, language, emotional and social development, as well as the broader environmental setting in which the events have taken place.

There are characteristics of children such as their stage of cognitive development, their emotional state at the time and their knowledge base that affect how they remember an event. There are also characteristics of an event (e.g., whether it is traumatic, personally salient, witnessed but not experienced), which affect the initial memory trace. As well, the individual characteristics of children interact with the characteristics of the interview itself (such as the nature and complexity of the questions and the personality style of the interviewer) to affect how children remember the event at the interview and what information is finally reported. All of these different factors will be covered in this section.

4.1 The Processes of Memory

Ornstein (1995) has described a framework for how information flows within the memory system. He has identified three interrelated processes: encoding, storage and retrieval. During the process of encoding, details of an event are entered into memory. This encoding can be deliberate, such as when children are studying words for an upcoming school quiz or memorizing the rules to play a board game, or it can be incidental as in the case where children

remember information about an event without having the expectation that they need to remember any specific details about that event. This latter situation more closely resembles the situation that faces most children who are interviewed about their experiences in an investigative interview and then are expected to testify in court. In cases of child victimization, children have no idea at the time they are in the situation, that certain details should be put to memory in case of future questioning. The information that is entered into memory is acquired in an incidental fashion.

It is hypothesized that the strength of the information, which is stored in memory, is affected by whether it is remembered incidentally or purposefully. Stronger representations are thought to be retrieved more readily, whereas weaker representations are more difficult to access. This helps explain why some details are not available in children's accounts of their victimization experiences when encoding has been incidental.

The next stage in memory is when the encoded information is stored. It is hypothesized that children's abilities to store information is well established very early in life. The difficulty is that they lack the meta-cognitive framework to organize the encoded information effectively until they are at least between the ages of five and ten. If we use the analogy of a library system to represent the process of memory in young children, we can say that children tend to be poorly organized librarians. They do not necessarily catalogue the books or *encoded memories* in a systematic manner such as alphabetically or by subject matter. Therefore although the 'books' may be in their library system, it is difficult for them to find specific books without other cues or reminders as to their location on the shelves.

The third stage in memory is retrieval, which is the means by which children attempt to access their encoded memory in storage and provide a verbal account. Retrieval is dependent on at least two factors: (1) whether the information was ever encoded in the first place, and (2) whether children can access it, in response to the questions that are put to them. Retrieval is therefore to some extent dependent on the nature of the cues provided to children to assist them in accessing their memory storage. It has been suggested that young children need more help than older children to remember, and more social support in the form of specific questions, prompts and cues to produce the details they have encoded (Fivush, 1993). That is one reason why they tend to produce less information about an event in free recall. Although it is possible that they may have encoded less detail at the time of the event, it is more likely that they have difficulty retrieving the details they have encoded, without external cues from the interviewer.

In general, research has shown that increased information processing abilities, better use of memory strategies and greater knowledge, all interact to produce more accurate and stronger memory traces in children older than five, than in children three to five (Ornstein et al., 1992).

4.2 The Use of Narrative Accounts in Memory

Retrieval involves more than just reporting details of an event. Neisser (1982), explained that in order to produce a coherent account of an event, children must talk about the *who, what, where* and *where* of an event. This requires the ability to produce a narrative account of what has occurred in the past. The use of the narrative form improves with age, and by age five or six

children are able to provide a fairly coherent narrative about a personally experienced event (Hudson & Shapiro, 1991). Unfortunately, preschool children do not have the narrative skills to recount past events in a sequential form and therefore are dependent on others to provide external structure in order to produce the event in a meaningful order. Many protocols strongly advocate the use of free narratives when questioning children about forensic events. Although this may be a good way to start an interview, this method will generally not offer the interviewer sufficient information when young children are involved. A balance appears to be in order.

Take a scenario where an intruder has been discovered in the boys' washroom during a routine check by the janitor at an elementary school. Ten male children in two classes, who have used the washroom that morning, are later interviewed by the principal about their visit to the washroom.

In the first interview, the principal asks a five year old child the following introductory general question, "Can you tell me all about your day in school today?" The child mentions a number of irrelevant activities that have taken place in the classroom, describing that they did counting and drawing and that he ate his snack, which was vanilla pudding. There is no specific mention of his visit to the washroom. The principal then asks if the child went to the washroom in the morning. The child nods and reports that he washed his hands afterwards because he didn't want germs. No other information is forthcoming. The principal then asks if he was alone in the washroom when he went there. The child responds with a one-word answer, "no". The principal then asks who was in the washroom when he was there and the five-year old boy responds that there was a man in the washroom too. The principal asks what the man was doing in the washroom and the child responds that he was "hitting" his privates near the sink. More direct questions then follow in order to solicit details about where the man was and if he had removed his clothing. The child offers nothing spontaneously.

In contrast, a ten year old boy is asked about going to the washroom, and offers a fairly detailed account of what has transpired, corroborating much of what the five year old disclosed in response to more direct questions. However, he too offers nothing about the man in the washroom in response to the first very general question "Can you tell me all about your day in school today?" It is noteworthy too, that neither of the boys mention the man in the washroom to their teacher. In fact there are no unsolicited disclosures from any of the boys who have used the washroom that morning.

4.3 Age as a Factor in Memory

Ornstein et al. (1991) hypothesized that with age there are corresponding changes in a variety of cognitive functions that influence the acquisition and storage of information and retrieval of that information in the memory system. Of all the variables that have been examined in the literature on memory in children, age of children has been the most significant. The research strongly suggests that there are age differences in children's recall in both laboratory studies and in the natural environment, indicating that older children may produce stronger representations in storage than younger children and remember more information for a longer period of time (Ornstein, 1995; Ornstein et al., 1992).

These findings help us to appreciate why much information adults feel is relevant to a particular situation is not encoded and does not enter into storage, or has a weak representation in storage, especially in the case of young children. As children mature and they have a better understanding of what is meaningful and relevant in a social context, they tend to encode more information and organize it better. As the above sample of the principal and students showed, young children don't necessarily know what information the adult is looking for and therefore do not scan their memories in the same way.

If we refer back to the school scenario, it is likely that the younger child who was interviewed had no idea what information was being sought by the principal because he did not really understand what the man was actually doing in the washroom and did not know that it was important information. In the case of the older boy, he did offer information regarding the stranger in the washroom. The older child required less cues and had a better sense of what was important for the principal to hear. With assistance, both children provided accounts, which corroborated each other.

4.4 Prior Knowledge and Memory

A child's age has been identified in the literature as impacting on encoding and storage, because it is related to the child's knowledge base. Specific *domain knowledge* is a critical area in the study of memory. Clubb, Nida, Merritt and Ornstein (1993) have suggested that children's understanding of an event to which they are exposed will have a profound effect on what they encode and what is stored in their memory. If this is true, this may help us to understand how older children might understand and encode more organized information about an experience of sexual abuse than younger children who do not possess a basic knowledge of sexual behavior, sexual terms, and sexual anatomy. If children don't understand what is happening to them, many peripheral details may not be encoded, as their significance is not understood. Given this information, we need to modify our expectations of children in this regard when they testify in court about sexual matters and other complex social behaviors.

4.5 Impact of Anxiety on Memory

The role of the child's mental state at the time of encoding of the event(s) in question is a relatively new area of focus in memory research with children. It stands to reason, that in the case of child victimization, the remembered experience(s) is often traumatic and frightening, and can cause extreme distress in the child. Most recently, there have been some contradictory findings with respect to whether heightened anxiety and stress at the time of an event has a positive or negative effect on children's memory. In some cases it has been suggested that high levels of stress increase children's abilities to focus and thus to encode the information (Terr, 1988), but others have suggested that too much stress at the time of the to be remembered event can cause memory impediment (Ceci & Bruck, 1993; Merritt, Ornstein, & Spicker, 1994; Peters, 1989a; 1991).

If an event is distressing at the time it is happening, it is conceivable that it is also distressing when it is remembered later on. The research on posttraumatic stress disorder (PTSD) has provided support for the notion that intrusive memories of past trauma can be particularly

anxiety provoking. One explanation for poorer recall of details in traumatic memories may be that these details are encoded in such a way that they are more difficult to access (Foa & Riggs, 1993). These authors propose that in adult rape victims, traumatic memories are often disorganized and fragmented, because they are encoded while the individual experiences extreme anxiety. They also hypothesize that heightened arousal may decrease the range of stimuli to which the individual attends. It follows that something similar may occur with children who are traumatized as well. During a traumatic incident, children's distress may be so overwhelming that they are unable to concentrate and fail to perceive much beyond the central act.

Another plausible explanation is that even though the details may have been encoded, their retrieval is hampered by the negative valence attached to the memories and are made less accessible as a result of continuous attempts by children to repress or push them from consciousness. More simply put, children may have encoded many details of an abusive experience even during heightened anxiety, but are unable to retrieve the memory traces. Retrieval can be hindered by the traumatic quality of the memory traces and the need to protect one's psyche. This combined with the presence of less well developed cognitive structures to help organize traumatic memories in storage, make remembering a traumatic event more difficult.

Different studies have found support for each explanation, suggesting that there may be an optimum level of stress beyond which encoding is inhibited, and individual differences in children's reactions to stress, which together are responsible for the varying amounts of information being remembered about a traumatic event.

4.6 Long-Term Memory

What is encouraging for those who advocate the participation of very young children in the court system, is the literature examining children's ability to correctly recall events over time. Given the lengthy delays that are often characteristic of cases in criminal court (up to two years), it is possible that young children could be expected to talk about events that have happened to them several years earlier. The good news is that even very young children (aged three) appear to be capable of recalling much that is forensically relevant (Ceci & Bruck, 1993).

If we review some of the earlier studies on long-term memory, we find that most paradigms have involved situations where children provide information about a past event in free recall. Fivush, Hudson, and Nelson (1984) were one of the first to study children's long-term memory for a real life novel event. They examined children's memory for a museum trip in archaeology, a day after, six weeks later and then one year later. What they found was that the children's memories remained stable over a six week period from the first to the second interview, and although children recalled less detail a year later, what they did remember was remarkably accurate.

These findings led to more studies of children's abilities to recall a real life event, rather than simply word lists in laboratory memory tasks. Several studies went on to examine children's recall of brief but salient medical and dental procedures over the short and long-term (Goodman, Hepps, & Reed, 1986; Peters, 1989b). It was hoped that these studies would be more

ecologically valid (relevant to real life experiences) than previous laboratory research on memory. In the study by Goodman and her colleagues, memory in younger children (aged three and four) for a medical procedure, was compared to memory for the same procedure in five and six year old children. Recall of details did not decrease over delays that extended over nine days, but there were age differences in amount of recall with older children remembering more than younger children.

A slightly different approach was employed by Peters (1987) who studied recognition memory (in this case the ability to identify a picture of a professional who was involved in the dental examination of the child subjects). Children between the ages of three and eight were tested. There was no decline in recognition memory between short-term (24 hours) and longer-term delays (three weeks) and few age differences in recall at either time. Peters suggested that for a recognition task, long-term memory was accurate for all the children ranging from age three to eight.

More recently, in a study by Ornstein et al. (1992), three and six year old children were examined for their memories for a personally experienced salient event that is a visit to the doctor. Children of both age groups remembered most of the features of the check up at the immediate memory test, but there were significant memory differences between the children of different ages at the one week and three-week intervals, with older children remembering more details. In fact older children tended to remember more details than younger children at all points in time. They also found that in order to obtain the details from the younger children, they had to employ more direct questions.

Recently, Peterson and Bell (1996) in an important study of memory followed up and interviewed children aged two to thirteen, six months after they incurred injuries that required a trip to a hospital. Their findings showed that "even children who were three years of age were highly accurate when recalling both what happened and who was there at the time of the injury and the hospital treatment" (pp. 3045). In fact, 80% to 90% of the information they gave was correct! However these children initially provided only 40% of the information in free recall, and the rest was obtained through direct questioning. Peterson (1997) replicated this study with a two year follow up, and found that children who were at least three years of age were highly accurate when recalling what happened and who was there, even two years later. They still remembered 80% to 90% of the details.

The findings in all three of these studies have important implications for the testimonial capabilities of children. Their results contradict assertions by some that young children (under five) are too young to provide accurate accounts about personally experienced events, especially after a long delay. Their results also support the practice of using cues in the form of more direct questions with young children to help them organize their memories. It appears that preschoolers can be expected to remember at least some central actions in free recall and what they offer can be highly accurate descriptions of past events. This is particularly true if they have personally experienced the event. They need to be asked direct questions to elicit the details.

4.7 The Effect of Time on Forgetting Behavior in Children

The effect of time on memory is a forensically important area to examine, as there is usually a lengthy delay before children testify about their experiences. Additionally, delayed disclosures are often the case in sexual abuse, which means that by the time children testify, months if not years have passed. It is true that we all forget things over time. The saying "time heals" implies that over time, even sad and hurtful memories fade into the distance and are less powerful triggers of emotional distress. At the end of the day, the question that is of concern to the court is whether children can give reliable information about an event after a lengthy delay.

Typically, testimony involves memory over very substantial delays. Research in memory suggests that weaker memory traces are more susceptible to forgetting over time. Younger children are hypothesized to form weaker, more disorganized memory traces, therefore their memories are said to be more vulnerable to forgetting over a long period of time (Howe, 1991). To address this specific issue, a study by Quas, Goodman, Bidrose, Pipe, Graw, and Ablin, (1999) examined children's long-term remembering and forgetting for a painful medical procedure known as a voiding cysto-urethrogram (VCUG) which they had experienced up to three years earlier. Children aged three to thirteen were interviewed using either a free recall format or direct questions. It is interesting that children who experienced the medical procedure known as VCUG before they were aged three, did not have a memory for the procedure when they were interviewed several years later. Children who were age three when they underwent the VCUG performed much better in the long-term memory test, and if experienced at age five and older, most children remembered the experience.

The researchers found that children remembered more information after shorter delays than longer delays, but there weren't more inaccuracies associated with longer delays, just less information remembered! There were also no differences between older and younger children with respect to the number of inaccuracies after a long delay.

This has important implications for court testimony by children especially preschoolers. It suggests that as long as an event is experienced after a child is three, the age of the child may not be as significant a factor in memory as previously thought. With respect to time delay, these researchers' findings were consistent with that of others, specifically that all children remembered less after a longer delay, but what they did remember was accurate. Younger children did offer less information than older children, as expected.

These findings speak to the need to expedite matters, so that more complete accounts can be provided by children to the courts. When children forget relevant details, they appear less credible, and their testimony on the stand appears inconsistent with their initial statements given in investigative interviews shortly after disclosure.

The encouraging news is that the study also suggests that even very young children will have a memory for an event that was significant to them after a long delay, if they experienced that event when they were at least three years of age. Therefore, if one is contemplating having children aged three testify in court, this likely should only occur if the event they are talking about occurred a very short time before. Although children often can remember events they

experienced in very early childhood (Fivush & Hudson, 1990; Howard, Osborne, & Baker-Ward, 1997), if this memory is not accessed quickly it fades, and then can then no longer be accessed. What we know from childhood amnesia is that it is usually present in adults for events prior to age three, but in children is less pronounced until they get older. Then they too forget their early experiences.

The only positive effect of having intervening years between an event and testifying is that children may undergo significant intellectual development, which impacts on their cognition and their language acquisition. As a result, their understanding of the event they experienced may be altered by their new found knowledge. This may be positive from a forensic point of view, in that children will have a better appreciation of the actual significance of the incident, and perhaps can explain what happened more clearly. Children may also have improved language skills, allowing a better description of the event with more richness of detail.

In any event, the research findings on the effect of time delays on forgetting behavior in children, emphasizes the importance of expediting court matters as much as possible to preserve children's complete memories for an event, but also indicate that children can have accurate memories for things that have happened to them even three years earlier.

4.8 Script Memory

Another interesting area of research in memory is that of *script memory*. Preschoolers have been shown to be quite sensitive to regularly occurring events, routinely forming scripts or generalized event representations based on prior experience (Farrar & Goodman, 1992). It is in this way that young children organize their past. What this means however, is that they have difficulty isolating a specific incident that occurred as part of a routine experience and may not differentiate a special event from scripted events. They use their script memory to fill in the gaps when they are trying to remember peripheral details that occurred on a particular day. For example, if the babysitter fondled them at lunchtime when they came home from school to eat lunch, they may not remember clearly whether there were other children there that day in the babysitter's home eating lunch. This forgetting or confusing whom else was there, would likely happen if other children usually attended the babysitter's on the same days of the week they did. They would in a general way remember other children routinely being there.

Older children are able to make those discriminations more easily, and may be able when searching their memory, to isolate a particular incident and day as standing apart from others. Younger children are particularly dependent on '*script memory*'.

4.9 Source Monitoring

According to Poole and Lindsay (1995), developments in cognitive, linguistic, and social skills contribute to age related changes in misinformation. Source monitoring errors occur when a memory derived from one source is misattributed to another source. The relationship that exists between age and source monitoring abilities is very complex. Many argue that young children may be more likely than adults to confuse memories from different sources when they

are very similar to one another. However it has also been found that in some situations children as young as five years of age are able to identify the source of their memories.

In a study by Gopnik and Graf (1988), three and five year old children were shown drawers with different things inside them. Some of the children were shown what was inside, some were told what was inside, and others were given a clue of what was inside. The five years old children were 100% accurate in identifying the correct source of their knowledge about what was in the drawers, but the three-year-old children were barely above chance. Four-year-old children performed somewhere in between on this task. Consistent with other similar laboratory studies, preschoolers were found to have the most difficulty attributing the source of their memories about their information.

One of the problems inherent in this study and others like it, is the ecological validity and generalization of the findings. Is remembering the source of your memory for what is in a drawer in any way relevant to remembering if someone touched you inappropriately or if you were just told that some one touched you? The importance of the memory you are being asked to judge as your own can differ significantly from an experimental study to a real life situation. Even studies that have questioned children about personal experiences have had difficulty simulating real life situations.

What are the implications of this type of research for court testimony? Concerns have been expressed that children are sometimes presented with post event misinformation by parents or suggestions by interviewers, which they then adopt as their own perceptions and memories. Although the research certainly gives examples of children's difficulties with source monitoring, it must be emphasized that there are times when the results have more to do with the children not understanding the questions put to them, than a true inability to differentiate their personal memory from someone else's. Despite this concern, it is very important to always ask children if what they are reporting is indeed their own or another's memory about what happened, and to examine their exposure to post event information.

4.10 Highlights in Children's Memory

In summary, the following general assertions can be made about children's memories. Children do have accurate long-term memories for events that have happened to them in the past, and they can provide an account of these memories under the right conditions. It appears that younger children relative to older children remember fewer details. This might have more to do with their problems retrieving their memories than with their initial storage. Central details of an event, which are usually, plot relevant details are remembered more easily by all children. These are the most likely details remembered in free recall. As children get older and have a broader knowledge base, a greater number of peripheral details are encoded as well. There is certainly an effect of age on the quality of children's memory, but even very young children (age three) can provide forensically relevant information. Heightened anxiety can inhibit the encoding of peripheral details of an event in some situations by causing fragmented memory traces, but may also facilitate the encoding of central details that remain exaggerated in memory. Personally experienced events are more likely to be remembered by children, as they are the most salient. There are no gender differences in memory function.

Children unfortunately do not provide a full account of their memories in a free recall situation, but require assistance from the interviewer to narrate their experience (Lyon, in press). As Saywitz (1995) has pointed out, there are certain types of information that are not encoded in memory in young children, because the concepts have not yet been learned and are not well understood. Measurements (time, distance, age, and height), body parts, positions (first and last), relations and kinships (first cousin, aunt), and frequency (actual number) are some examples. Source monitoring of memories can be a problem for younger children (Parker, 1995). All memory traces fade over ime for everyone, but these *storage failures* decrease with age, such that younger children's memories are more vulnerable to forgetting over time than older children (Brainerd & Ornstein, 1991).

Children can have much forensically relevant information to offer about things that they have witnessed or experienced. Care has to be taken in the manner in which they are questioned in order to preserve their evidence, yet encourage their disclosures. Expediting matters in court is advisable in order to insure that children can give a fuller account of their memory.

V. SUGGESTIBILITY OF CHILDREN'S MEMORY

Suggestive questioning refers to an interview situation where the interviewer provides a persistent suggestion and interpretation of an event to a child that has a significant effect on a child's interpretation of the event. Over the last decade, an increasing number of studies have examined the extent to which children's memories are susceptible to suggestion as a result of post event information. As previously mentioned, concern over children's suggestibility, was raised in response to high profile multi-victim, multi-offender cases in the early 90's, where preschool aged children made extreme and often improbable allegations of abuse following very suggestive interviewing (e.g., State v. Kelly Michaels, 1994; Montoya, 1993). In these cases, there were multiple victims who were very young and who were exposed to repeated suggestive interviews.

Most recently, a number of excellent studies have been carried out on interviewing children for forensic purposes (Ceci & Bruck, 1995; Poole & Lamb, 1998). It has been stressed over and over that researchers need to look at the system variables in order to better understand the factors that compromise or enhance the accuracy of children's accounts.

The extent to which children of different ages are vulnerable to suggestion has been a major research focus. The results from this research have been inconsistent, in large measure as a result of the different methodologies that have been employed, and the different aged children that have served as subjects. Ceci and Bruck (1995) have suggested that the accuracy of most children's testimonies can be degraded when interviewers ask misleading questions or provide social feedback that favor a particular answer. However Thompson, Clarke-Stewart, and Lepore (1997), in their review of previous studies on suggestibility, have pointed out that some of the studies have used rather "extreme" paradigms. These have included multiple interviews during which misinformation is presented in an authoritative and intimidating manner and in interviews in which social pressure is used to convince the child of the adult's knowledge of the 'false' events. Most often the studies have been carried out on preschool children who are interviewed about a staged event, use a set of suggestions that follow a common theme. The theme is often forcefully and repeatedly presented to the children by at least two interviewers, using psychologically manipulative techniques of persuasion.

On the other end of the continuum are studies which have used less intrusive paradigms, where some suggestive questions are included in the interview, but not with an accusatory tone or insistence. Depending where on the continuum the question paradigm lies (slight to extreme manipulation), differences have arisen in the degree of suggestibility of the children's memories (Lyon, 1999).

5.1 Factors Affecting Children's Suggestibility

According to Ceci and Bruck (1995) children's memory traces alter more easily and that is why they are more susceptible to the power of suggestion. They believe that memories are actually rewritten as a result of post event information. One reason put forward to explain why children are more suggestible, was offered by Thompson et al. (1997). They suggested that

children lack confidence and look to adults for cues on how to interpret social behavior in those around them. When exposed to highly suggestive incriminating post event information by adults, children can be expected to be affected. Young children tend to assume that adults have all the answers, and they defer to pressure by adults to modify their perceptions. Interestingly, children are less influenced by same aged peers (Ceci, Toglia, & Ross, 1988). Older children are less susceptible to misleading questions put to them by peers than by adults (Kwock & Winer, 1986). A forceful adult interviewer who keeps suggesting misinformation to a child can lead a child to believe that they perhaps have not remembered accurately, even though they were the ones who were there, not the interviewer.

Another factor which can result in an increased potential for misleading information to be presented to children, is the reality that young children tell an interviewer less during free recall, which makes the process of eliciting information difficult (Ornstein et al., 1992). As mentioned earlier, this is because children do not store their memories in an organized fashion, and need cues to help them retrieve their memories. When left to their own devices in a free narrative format, they offer the bare minimum. This opens up the door for more suggestive questions by interviewers who are desperate for the details.

How many professionals have sat with a reticent young child and waited while the child narrated the story of their abuse, providing only a bare minimum of details? The temptation to offer choices to children about how things happened is strong. There is the risk however, that in these situations young children might accept a suggestion put to them even if it is not true because they tend to defer to adults, and because they have difficulty with their own retrieval system. The most encouraging finding for forensic interviewers is that generally it is more difficult to mislead children to report negative or abuse related events than positive events, regardless of age (Eisen, Goodman, Qin, & Davis, 1998). Children are fairly resistant to suggestions that they have been hurt when they have not.

5.2 Reducing the Potential for Suggestibility in Interviews

There are also some promising avenues for interviewers to reduce the potential of suggestibility in children. Poole and Lindsay (1995) have shown that if WH questions are asked of children following their free narrative, the completeness of the children's accounts is increased, without decreasing the accuracy. As mentioned previously, a WH question is one which begins with "who" "what" "where" "why" "when" and "how". These are very different from forced choice questions (Was he over or under you?) which offer only two alternatives to children (neither of which may be right); and very different from tag questions, in which there is a request for affirmation of the statement, and an obvious display of the interviewer's beliefs about what happened. Poole and Lindsay tested three to four year olds and five to seven year olds, about a man called Mr. Science who did four science demonstrations with each child. In free recall, the children provided considerably less details about the experiments, but when further questions like "tell me more", and WH questions were asked by the interviewer, they provided three times as many details in both age groups, and their accuracy was very high.

The most recent and most comprehensive study carried out on the accuracy of children's eyewitness reports was carried out by Poole and Lindsay (2001). They examined how misleading

suggestions from parents influenced children's accounts of what they saw. The children involved in their study ranged in age from three to eight years old. They all participated in science demonstrations, listened to their parents read a story to them that offered true and false descriptions of what they saw, and then were interviewed twice by interviewers. The interviews took place immediately after the demonstration and after the suggestibility manipulation. Different approaches were used in the interviews, such as open-ended prompts followed by direct probes etc.

The researchers directed their attention to very pointed concerns, many of which have relevance to a forensic setting. They suggested that the reason their research was timely, was because some children involved in forensic investigations have been exposed to misinformation from trusted adults. This information could have come about through overheard conversations, unintentional suggestion or even deliberate coaching or "brain washing". In this study, the authors queried whether such exposure to suggestion after an event had occurred could affect the answers children later gave in their investigative interviews. In their experimental paradigm, they tested this out.

Their findings were both discouraging and encouraging at the same time. Firstly, they reported that even young children in their experiments could accurately report recent complex events if they were not influenced by misinformation or intrusive questioning. Most impressive was the fact that for the youngest children in the study, the majority of the information they provided about the science demonstration in their interview was accurate. With respect to the entire sample of children, only 1% of the children's reports were defined as "detail" errors in free recall when no suggestion occurred.

What they found worrisome however was that once children were exposed to misinformation by their parents about the science demonstration, even their free recall narratives to interviewers contained non-experienced events. The tendency to report non-experienced events did not defer with age, suggesting that all children were susceptible to suggestion.

An examination of the impact of different types of interview questions on accuracy showed that there was a positive impact of direct questions in increasing the number of correct reports, especially for younger children. However yes and no questions also increased incorrect responses. What is the implication of this unintended negative effect of yes and no questions for forensic matters? The research by Poole and Lindsay is encouraging, because it appears that when children in their study were asked yes and no questions about touch events that were neither experienced nor suggested, most children of all ages responded "no" (Poole & Lindsay, 2001).

5.3 Highlights on Children's Suggestibility

In summary, there has been a proliferation of studies on the suggestibility of children's memories. The findings are at times contradictory and confusing, but several consistent results are appearing. Children are more suggestible than adults and younger children are more suggestible than older children. There are interview characteristics such as number of interviews, style of questioning employed in interviews (open, repeated, exploratory, direct,

probing, misleading, forced choice and yes-no), emotional tone of interviewer (intimidating, judgmental, supportive), and social pressure (identity of the interviewer) that appear to affect the accuracy of the responses given by children about events they have experienced. Post event information prior to the investigative interview is another factor, which can affect children's reports.

These findings should lead us to be more careful in our approach to children when interviewing them, such that we modify our questions in a way that minimizes the potential for suggestibility. Given the above findings, it is clear that the responsibility for suggestibility lies on the questioner and not on the child. Unless we ask the right type of questions and allow children to recount their own experiences, we do them a disservice. There are certainly available guidelines on good interview techniques (e.g., Lyon, in press; Poole & Lamb, 1998; Quas et al., 2000). Their use should be encouraged because we know that when questioned properly, children can give accurate accounts of events in their lives.

VI. DEVELOPING A MODEL TO EXPLAIN TESTIMONIAL COMPETENCY

There are a multitude of factors that interact to influence the testimonial capabilities of children. The flowchart in Figure 1 outlines these factors and provides a theoretical model to explain children's performances on the witness stand. Unfortunately many of these factors are not routinely considered in the courtroom when an evaluation of child witness credibility takes place. There is often the assumption that because children's evidence is qualitatively different than that of adults, children are not as reliable or as accurate. It can be said however, that few accommodations are made to court procedures to facilitate the giving of evidence by children.

A recent finding in the developmental literature is that there are individual differences in children with respect to their abilities and temperament. Although there are definitely age related trends, assuming that all children of a certain age will have the exact same abilities is dangerous. For example, Goodman et al. (1998), in a very comprehensive review of the literature of children's eyewitness testimony, have found that children's individual temperaments and their physiological reactivity impact on their stress level during an event and on their memory performance later on.

Age and stage of cognitive development in children at the time of an event are a given, and they too have been shown to effect the amount and type of experiential details that are encoded into memory. Younger children typically remember fewer details than older children about an event. This is likely due to two factors: they understand less of what is going on and thereby encode less information and their memory retrieval processes are less well developed, making it more difficult for them to access the memories that they do have. What is encouraging however, are the research findings, which indicate that what they do remember can be highly accurate. The key of course is to get them to reproduce their memories verbally.

Children's social maturity and their emotional stage of development have also been shown to affect their interpretation of an event, in particular its personal meaning. Knowledge of the world and personal life experiences are more limited in children, making it difficult for them to analyze social situations and adult behavior. In the case of sexual abuse for example, young children are not always cognizant of the fact that they have been sexually abused. Their lack of prior sexual knowledge and their social naivety results in difficulty interpreting an abuser's sexually motivated behaviors. Because they do not appreciate the significance of the more subtle acts, they are easy targets for sexual grooming. In investigative interviews when young children describe sexual victimization experiences, they are hindered not only by their lack of sexual knowledge but also by their general social comprehension.

It is clear that when children are asked to remember past events, a number of factors will either facilitate or inhibit their ability to retrieve their memories. Of great importance is the amount of elapsed time between the event itself and subsequent questioning. Children's memories, like that of adults fade over time. All available research suggests that younger children's memories are more affected by the passage of time than older children's memories. The longer the time period between the event and the questions put to them, the more difficult it will be for children to retrieve their memories. In cases where the discovery of past

victimization has just come to light and young children are questioned about events that have happened years earlier, the potential to forget increases. This forgetting is particularly true for peripheral details. This of course speaks to the need to question children as soon as possible after an event.

The nature of the event to be remembered is another factor that has been shown to impact on the children's abilities to encode and later retrieve the memory. Is the event particularly salient? Was the event personally experienced or witnessed? Is the event an isolated incident or has it occurred numerous times? Is it a traumatic event that causes great emotional distress when remembered? Research on traumatic memories has produced opposing views with respect to the relationship between stress and memory. What appears to be true is that too much traumatic stress can impede the encoding process by limiting what children attend to and perceive. Too much stress can also impede the retrieval process by making it difficult to access the memory.

Once children have disclosed information in an investigative interview, they unfortunately may wait a long time before they repeat their statements in a court of law. Even in the best scenario, court cases can take months, if not years to complete and children can find themselves talking about events in court that occurred years earlier. Unfortunately, courts still expect children to provide not only central but peripheral details as well, and are alarmed if their evidence contains less detail than their initial statement.

The ability to recollect and report on a memory involves retrieving the encoded memory trace, and communicating the memory trace verbally. Language skills are therefore of paramount importance at this junction. Children's receptive abilities affect whether they understand the questions put to them. Their expressive abilities determine how they phrase their responses. Lacking sufficient vocabulary, verbal comprehension and rules of conversational speech makes it difficult for children to understand the questions and to describe what has transpired.

For these reasons, the nature of the investigative interview is so important, more specifically the type and complexity of the questions put to children and the interviewer's style. Of equal importance however, is the nature of the questions put to children on the witness stand. Children's testimonial performance will be negatively affected if developmentally inappropriate questions are put to them during their examination-in-chief or cross-examination.

Unfortunately, research findings in the area of children's susceptibility to inappropriate questioning is brought up in court only as it relates to poorly conducted investigative interviews, or post event information offered by concerned adults. There is a tendency to ignore the fact that the research on children's cognitive and communicative abilities and in particular their susceptibility to suggestion, applies equally to what transpires in the courtroom. A child witness's experience on the stand is certainly as critical as the forensic interviews and post event life circumstances that have preceded the court hearing.

Research strongly suggests that when children are fearful, when they feel intimidated and are made anxious by an unsupportive environment, when they lack the necessary knowledge to interact appropriately in an a setting, they perform less well. Court preparation of child

witnesses can address some of these concerns, because children who are better prepared for their role as witnesses will do better on the stand. Testimonial aids may be of assistance in alleviating the stress of facing the accused in the courtroom. However no amount of preparation or accommodations can make a difference if the court allows a brutally aggressive cross-examination. Most children are simply not emotionally able to withstand that level of social pressure. When this happens, the difference between children's testimonial competency and their actual testimonial performance widens and children fail to perform.

It is very important to make a distinction between testimonial competency and testimonial performance. Performance refers to knowledge and abilities that are expressed under ideal circumstances (Woolard et al., 1996). Competency refers to capacity. Unfortunately, the courtroom is not an ideal circumstance. When we speak of the potential of children to be witnesses, we must not ignore the fact that there is always an interaction between the courtroom environment and their performance.

In summary, when it comes to testimonial competency in children, the research field on children's competencies is brimming with polarization, not integration (Saywitz & Camparo, 1998) and recommendations for professionals are often contradictory. There have been some very scathing opinions of children's testimonial abilities.

A review of the research on children's abilities, in particular in the area of suggestibility suggests, that often times the strengths children possess are ignored and the weaknesses emphasized. If anything, the research findings reviewed in this paper suggest that children have much to offer that is forensically relevant, and their involvement in the criminal justice system as complainants and potential witnesses is not misguided. It is rather the approaches employed to obtain information from children that are at fault, based on a lack of understanding of children's abilities and age inappropriate expectations. The model offered in Figure 1 is a way of demonstrating all the different factors that impact on children's testimonial capacities and performance.

VII. RECOMMENDATIONS FOR THE SYSTEM: HOW TO OBTAIN GOOD EVIDENCE FROM CHILDREN

Child developmental research generally supports the involvement of children in the courtroom, suggesting that children have forensically relevant information for the court. The research findings also indicate that there are many aspects of courtroom procedure that must be targeted in order to improve the quality of children's evidence in court. The developmental research findings on language acquisition and cognitive abilities, speak dramatically to the need for court persona to modify the complexity and nature of questions put to children in the witness box. Recent findings on the emotional vulnerability of child witnesses demonstrate the importance of handling child witnesses in a sensitive and enlightened way, so that children succeed in sharing their victimization experiences with the court. Child witnesses are simply not adult witnesses.

Unfortunately even before child complainants open their mouths to speak on the stand, the investigative interview that was carried out months earlier may preclude a positive outcome in their case. Increasing criticism has arisen over suggestive interviews of children. It is therefore incumbent on mandated agencies such as the Children's Aid Society and the police to conduct proper investigative interviews that do not taint children's evidence, but maximize the probability that the child will tell the interviewer what transpired. In order to accomplish this, more effort must be devoted to better training on interviewing. A number of recommendations are offered in this section.

Professional training of those individuals conducting the forensic interviews must take place to insure that the interviews are properly done: Adoption of widely known acceptable interview protocols now available should be mandatory.

Research conducted on children's knowledge of the legal system has uncovered a surprising naivety about the process. This is because of a lack of specific domain knowledge in children of all ages with respect to the criminal justice system. Children simply do not understand much of the legal terminology employed, nor are they familiar with the formal procedures that are carried out. They need assistance to navigate the system in general, and when on the stand they need strategies to resist inaccurate suggestions that are posed to them. They require warnings to only answer what they know and remember to be accurate. The importance of court preparation for children cannot be overstated.

It is strongly recommended that court preparation services be offered to all child witnesses so that they are more equal participants in the process.

Because the testimonial performance of children is most definitely an interaction between their language and cognitive abilities on the one hand and the nature of the questions they are asked on the other, it is necessary for the court to exert some control on the way in which children are questioned on the stand, either during the inquiry, the examination-in-chief, or the cross-examination. There appears to be great variability amongst legal professionals in their

ability to properly question children. As a result, many child witnesses are subjected to developmentally inappropriate questions that confuse them and undermine their performance.

It is recommended that mandatory training sessions be developed for professionals who interact with child witnesses in court, on the use of age appropriate vocabulary and appropriate questions.

A trial is of course adversarial, and as such the goal of the defense lawyer will be to discredit the child witness's testimony on the stand. In this climate, there is always the danger that questions put to children are purposefully crafted to either exert pressure on them so that they tend to agree with erroneous facts, or confuse them by talking above their level of comprehension. The research clearly points to the discrepancy that exists between an adult's and a child's language skills, and the fact that there is the likelihood of misrepresentation of children's evidence when they are confused by the nature of the questions put to them. The court must voice concern when inappropriate and misleading questions are asked of children during a cross- examination. There is a need for clear guidelines that stipulate an acceptable approach to obtaining information from children during court proceedings. These guidelines should include a range of appropriate examples of questions, which can be used to illicit details about an event from children of different age ranges, without suggesting misinformation or exposing a bias.

A manual should be created which outlines the nature and type of questions that can be asked of child witnesses of varying ages on the stand: Compliance with this guideline should be encouraged in court.

The research to date strongly supports the use of provisions to accommodate child witnesses on the stand. In particular, closed circuit television and screen provisions, availability of support persons, and admission of videotaped statements in lieu of examination-in-chief, are all important because they can reduce the anxiety of child witnesses.

It is recommended that courts routinely accommodate children through legislative provisions to reduce their stress level and improve their testimonial competency.

Much research has taken place here in Canada and in other countries on the value of having children undergo an inquiry into the oath. The general consensus appears to be that the inquiry into the oath is a cumbersome overly abstract process, which is not in the end helpful in insuring that children tell the truth in court.

It is recommended that the courts dispense with the inquiry into the oath for children under fourteen and in its place simply have children indicate that they will tell the truth on the stand.

The longer matters take to resolve in court, the more difficult it is for child witnesses to remember all the details surrounding what has happened to them. Research has shown that anticipatory anxiety in the months leading up to a court hearing can be unbearable for many child

witnesses, as well as impeding their performance. For the sake of the quality of the evidence offered to the court, as well as the emotional well being of children, cases should not be permitted to drag on for months and years.

It is recommended that everything be done to expedite matters involving child victims. Dispensing with preliminary hearings and moving right to trial may be one way of shortening the time between the charge and outcome.

VIII. FUTURE DIRECTIONS

It would appear from the areas covered in this paper, that more research is required on ways to enhance child witness testimonial performance in the courtroom. Simply recognizing that children are vulnerable participants in the criminal justice system when they testify about childhood victimization is not enough. It is only a first step. One avenue of research that appears timely is the development of a guideline for questioning child witnesses on the stand, one which takes into consideration research findings on children's developmental abilities, their susceptibility to suggestion and their vulnerability to intimidation. This guideline could be evaluated in future as part of a large research study, comparing the testimonial performances of child witnesses who are questioned by counsel using the new guideline, versus those who are questioned by counsel who employ the traditional approach of cross-examination. The impact on court outcome could be examined as well, and further recommendations to improve testimonial competency would be research based.

Another area of research that would be valuable is an assessment of the implementation of existing legislative provisions across the country. To date there are only a few Canadian studies that have been carried out on local population samples. As well, the potential benefit of expanding legislative provisions should be evaluated in light of this practice in other countries. The effectiveness of current professional training for those working in the criminal justice system could also be an area of further evaluation, with a view to examining whether the intended spirit of the law regarding child witnesses is well understood and practiced.

In summary, much has been done to study the developmental capabilities of child witnesses of differing ages, and the impact on their testimonial competency. Not enough research however, has been carried out on the interaction between judges and lawyers and child witnesses in court and the resultant testimonial performances of children. This is an area of research that holds great promise for the future.

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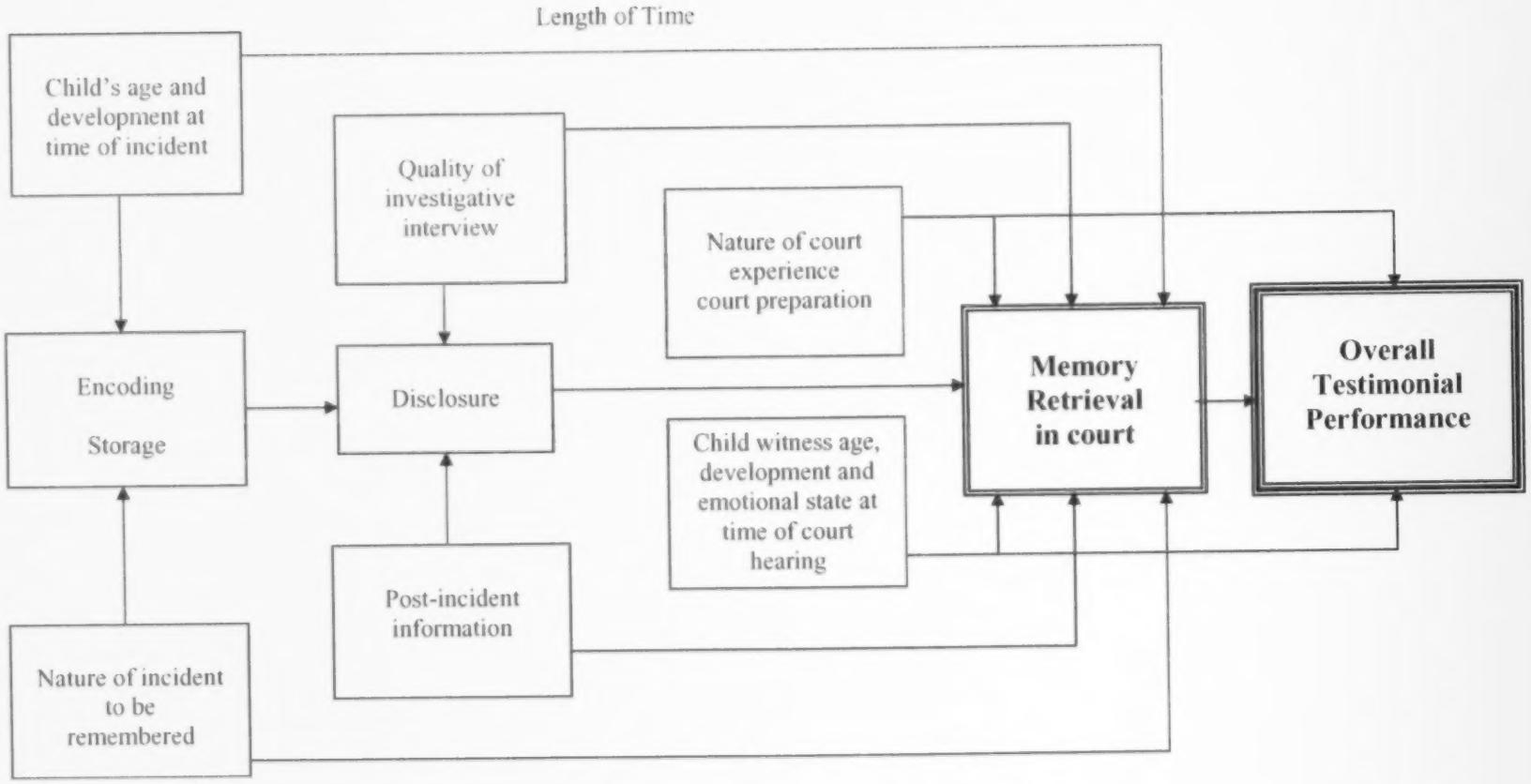
Length of Time
Child's age and development at time of incident
Quality of investigative interview
Nature of court experience court preparation
Encoding
Storage
Disclosure
Memory Retrieval in court
Overall Testimonial Performance
Child witness age, development and emotional state at time of court hearing
Post-incident information
Nature of incident to be remembered

Figure 1. Factors which influence the testimonial performance of child witnesses.